



Westinghouse
Electric Corporation

Water Reactor
Divisions

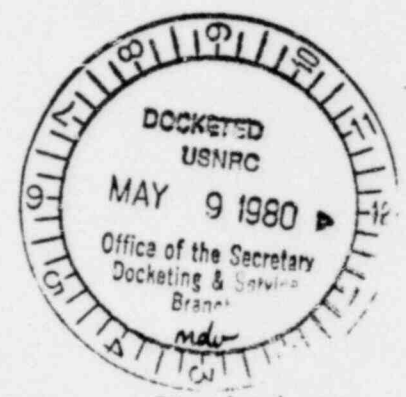
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April 29, 1980

NS-TMA-2239

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PROPOSED RULE PR-Misc.-NUREG-75/087 (2)
(45 FR 12939)

Mr. Samuel J. Chilk
Secretary of the Commission
U. S. Nuclear Regulatory Commission
1717 H Street
Washington, D. C. 20555



Attention: Docketing and Service Branch

Dear Mr. Chilk:

The purpose of this letter is to provide Westinghouse comments on Standard Review Plan 4.2 (Revision 2, Draft 1) and the associated Value-Impact Statement. Detailed comments are provided in the attachment with a summary of the key points provided below:

Load Combination

The reactor coolant system is designed to withstand SSE loads. Westinghouse has demonstrated that an SSE could not reasonably result in a LOCA and, therefore, the combination of LOCA and SSE loads is not a reasonable design basis, particularly for a non-pressure boundary component. In previous versions of Appendix A, the Staff has provided justification for decoupling LOCA and SSE loads. However, in the current version of Appendix A, no justification is provided for combining these loads. Westinghouse has demonstrated that LOCA and SSE loads do not require combination and strongly recommends that the Staff provide a technical basis for their current position on fuel grids.

LOCA Safety Factor

Westinghouse understands that flashing and crossflow during the postulated LOCA transient can contribute hydraulic loads. However, Westinghouse does not concur with the previous technical justification provided by the Staff for a 1.3 LOCA hydraulic load factor attributed to steam flashing effects. The technical basis for the Westinghouse objection to this factor is provided in the referenced letter.

Acknowledged by card. 5/20/80 mdw

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Mr. Samuel J. Chilk

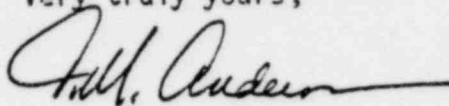
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Should the Commission desire, Westinghouse would be pleased to further discuss the comments provided on this subject.

Very truly yours,



T. M. Anderson, Manager
Nuclear Safety Department

J. J. McInerney/TMA/jaw

Attachment

cc: R. O. Meyer
K. Kniel

ATTACHMENT

WESTINGHOUSE COMMENTS ON SRP 4.2

Comments on Appendix A

1. Section B.1 - Input

This section states that when earthquake loads are large enough to produce a non-linear fuel assembly response, input for the seismic analyses should use structure motions corresponding to the reactor coolant system analyses for the SSE. The exact intent of this statement is not apparent. Westinghouse interprets this statement to require the use of time history analysis when fuel assembly response is non-linear. It is recommended that the above statement be clarified to clearly delineate the type of input motion analysis required for large earthquake loads in the same manner as the last sentence in Section B.1 which permits the use of a spectral analysis when the fuel assembly response is linear.

2. Section B.2 - Methods

It is our understanding that the standard problem previously submitted by Westinghouse in letter NS-TMA-1772, dated May 1, 1978, satisfies the subject requirement if issued as part of Standard Review Plan 4.2. Thus, Westinghouse would not plan to submit another standard problem.

3. Section B.3 - Uncertainty Allowances

- a. It is not clear whether the recommended 10% variation in input magnitude refers to displacement or acceleration; we assume that it can be either at the option of the vendor as previously noted in INEL report RE-A079-023.
- b. Westinghouse recommends that the last sentence of the second paragraph be modified to read, "Since resonances and pronounced sensitivities may be plant dependent, the sensitivity analysis should be performed on a plant-by-plant or on a generic plant basis until the reviewer is confident that further analyses are unnecessary or it is otherwise demonstrated that the analyses performed are bounding."
- c. The safety factor of 1.3 placed on LOCA has been attributed to steam flashing. Westinghouse agrees that steam flashing is a real phenomenon, but disagrees with the previous technical justification given for the magnitude of a safety factor. The basis for this disagreement is provided in Westinghouse letter NS-TMA-2060 which was transmitted to the Staff on March 27, 1979.

Comments on Appendix A (Continued)

4. Section B.5 - Combination of Loads

- a. Westinghouse does not consider combination of seismic and LOCA loads an appropriate design basis for fuel grids since the reactor coolant system is designed to withstand SSE loads. Westinghouse has demonstrated that a seismic event could not reasonably result in a loss of coolant accident in WCAP-9283, "Integrity of the Primary Piping Systems of Westinghouse Nuclear Power Plants During Postulated Seismic Events" and WCAP-9558, "Mechanistic Fracture Evaluation of Reactor Coolant Pipe Containing a Postulated Circumferential Through Wall Crack," which have been submitted to the Staff for review. Conversely, the Staff has not provided technical justification for requiring the combination of LOCA and SSE loads, particularly for a non-pressure boundary component (also see Comment No. 8). Furthermore, the NRC has previously provided justification for the decoupling of LOCA and SSE loads in an NRC letter (from Sang B. Kim to S. Nakazato of Westinghouse) dated May 18, 1979.
- b. Any consideration of load combination should allow for alternatives to the square-root-sum-of-squares (SRSS) methodology such as a combined LOCA and SSE forcing function.

5. Section C.1 - Grids

Please refer to Comment No. 6 relative to the planned evaluation of test equipment used to determine grid strength.

Comments on the Value-Impact Statement

6. Section III.B - Impact Assessment - NRC

The program described in the Value-Impact Statement for a consultant's evaluation of test rigs is inconsistent with statements in this document concerning the undue attention which is focused on spacer grids. Evaluation by test is not considered necessary because the state of the art is sufficiently developed to permit a reviewer to adequately evaluate spacer grid tests based on test descriptions and schematics. Westinghouse is also concerned with the establishment of an NRC precedent that could be extended to all types of testing performed in the nuclear industry.

7. Section IV.B - Impact Assessment - Industry

The statement that all current fuel designs will meet the acceptance criteria in Appendix A to SRP 4.2 is unfounded. The loads that fuel grids are subjected to are plant dependent. For many operating plants

Comments on the Value-Impact Statement (Continued)

7. Section IV.B - Impact Assessment - Industry (Continued)

a large double-ended guillotine break in the reactor coolant system was not included in the original design basis. Therefore, LOCA loads on the fuel grids are extremely large and the acceptance criteria in Appendix A may not be satisfied without major plant modifications. Therefore, it is recommended that the impact assessment consider the foregoing.

8. Section V - Decision on Technical Approach

No technical justification for requiring the combination of LOCA and SSE loads is provided. In previous drafts of this document (NRC letter dated May 18, 1979, from Sang B. Kim to S. Nakazato of Westinghouse) strong technical justification was provided by the Staff for decoupling LOCA and SSE loads. It is recommended that the technical basis for load combination (or no load combination) be provided in this Value-Impact Statement.