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Richard C. DeYoung, Assistant Director for PWR's, Division of Reactor Licensing

EVALUATION OF WESTINGHOUSE TOPICAL REPORT "INDIAN POINT UNIT NO. 2 REACTOR INTERNALS MECHANICAL ANALYSIS FOR BLOWDOWN EXCITATION (WCAP-7332-L, NES PROPRIETARY CLASS 2, FEBRUARY 1970)"

Adequate response to the enclosed request for additional information are required before we can complete our review of the subject report. This request, prepared by the DRS Mechanical Engineering Branch, concerns loss-of-coolant dynamic analysis of 4-loop reactor internals.

The information requested is applicable to other Westinghouse applications, such as Salem Nuclear Plant, Units 1 and 2, on a generic basis.

Original Signed by
R. R. Maccary

DKT. #50-247

R. R. Maccary, Assistant Director
for Engineering
Division of Reactor Standards

Enclosure:
Request for Additional Information
W Topical Report WCAP-7332-L

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EVALUATION OF WESTINGHOUSE TOPICAL REPORT

"INDIAN POINT UNIT NO. 2

REACTOR INTERNALS MECHANICAL ANALYSIS FOR BLOWDOWN EXCITATION"

WCAP-7332-L, (NES PROPRIETARY CLASS 2), FEBRUARY, 1970

1. Provide the basis for the statement on page 14.3-36 of Reference 2 that the system mathematical model is conservative and that further mass-spring resolution of the system would lead to further attenuation of the response determined from the present mathematical model.

2. Provide a description of the method used to separate the dynamic response of the columns from the response of the upper core plate.

3. Provide justification for using a mathematical model where all long or short columns have identical dynamic response. In the event the upper core plate is considered as rigid, justify the implied different responses of the upper cover plate under the long and short columns.

4. Provide justification for omitting possible coupling of vertical motions with the horizontal motions in the model.

5. Provide basis for use of an axisymmetrical model to simulate the non-axisymmetrical structure and blowdown loads.

6. Provide justification for structural partitioning of the internals to the barrel, and neglecting the possible loop structure coupling to internals in dynamic analysis.

7. The dynamic response of thermal shield under the loss-of-coolant accident is not described. Provide a summary of analytical results used to confirm the design adequacy under the LOCA transients, including the contribution of the discrete supports at the upper end.

References

1. Westinghouse Topical Report, "Indian Point Unit No. 2 Reactor Internals Mechanical Analysis for Blowdown Excitation", G. J. Bohm, WCAP-7332-L, (NES Proprietary Class 2), February, 1970.

2. "Final Safety Analysis Report" to Salem Nuclear Plant, Units 1 and 2, Docket No. 50-272 and 311, March 1972.