

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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NOTE TO: R. L. Tedesco, Assistant Director for Containment Safety, DTR
R. R. Maccary, Assistant Director for Engineering, DTR

THRU : R. C. DeYoung, Assistant Director for Light Water Reactors Group 1, DRL *[Signature]*

GRAND GULF MARK III CONTAINMENT DESIGN

On 5/27/75 a meeting was held with the Deputy Director of Nuclear Reactor Regulation to discuss with members of the NRC staff their conclusion that the loads being used by the Grand Gulf AE are not adequately supported by the test data and that possibly questionable design practises are being used to factor these loads into the design. The purpose of this memo is to outline the options identified at this meeting to resolve these concerns for all the BWR-6/Mark III applications and identify a specific course of action with schedule objectives for Grand Gulf.

The following design options will be offered to all the Mark III applicant to assure the NRC that the design loads will be sufficiently conservative to account for the uncertainties in the current test data.

- 1) The applicants could agree to use standard engineering practices with a conservative load profile to be specified by the containment systems branch and verified by additional testing at a later date not necessarily before beginning construction; or
- 2) The applicants could agree to use standard engineering practices and to delay construction until the results of additional testing, to be specified by the containment systems branch, is available and has been reviewed by the NRC staff (CSB estimates that the testing and data evaluation could take as long as 3-4 months); or
- 3) The applicants could agree to relocate structures and mechanical and electrical equipment below a certain elevation (approx. 20 feet above the suppression pool) to be specified by the Containment Systems Branch. Loads on structures and equipment that cannot be relocated (i.e. vertical walls) must be justified by either option 1) or 2) above.

The adoption of one of these options would be acceptable for issuance of construction permits and PDA's for applications using the GE Mark III containment concept (this group includes the GESSAR-238, Perry, Allens Creek, and River Bend plants, for which the ACRS has completed its reviews; and Douglas Point, Barton, Montague, Skagit, Clinton, and Hartsville, for which the staff SERs have yet to be issued).



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The Grand Gulf case is the most pressing problem because the CP has been issued and the applicants will begin pouring concrete for the containment base mat on 6/26/75. It was decided that construction on the containment should not proceed until the NRC is satisfied that the margins in the structural capability are adequate to account for the uncertainties in the current data or until better test data is available. If the Grand Gulf applicants agree to voluntarily adopt one of the above options, no enforcement action would be necessary to satisfy NRC staff concerns. If they do not agree to one of the options the NRC will have to identify a specific health and safety concern upon which to base a Show Cause Order if we require resolution of this concern prior to pouring concrete. The following is the specific course of action and schedule objectives agreed upon for Grand Gulf:

- CSB - Specify by 5/30/75 additional tests required to justify design loads.
 - Specify by 5/29/75, a conservative load profile that must be used if the applicants do not wait for additional test data.
 - Specify restrictions on elevation above the suppression pool for structures and mechanical equipment, by 5/29/75.

- SEB - Prepare a question list by 5/30/75 identifying discussion topics for a 6/4/74 meeting with the applicants to attempt to identify the margins in the existing design.
 - Determine what margins if any exist in the containment design, by 6/5/75.

- RL - Inform the applicant by 5/30/75, of the actions the NRC intends to take based on their response to the options outlined above. Provide the question list prepared by SEB and request the applicants to be prepared to discuss these questions and their decision to adopt one of the NRC options at a meeting on 6/4/75.
 - Make recommendation to regulatory management on whether or not to issue a Show Cause Order based on the results of the 6/4/75 meeting with the applicant and SEB's ability to determine the existing design margins. The recommendation should be prepared by 6/6/75.

Edward J. Butcher

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