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Writer's Direct Dial Number

November 18, 1992

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U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Gentlemen:

Subject: OYSTER CREEK NUCLEAR GENERATING STATION (OCNGS)  
DOCKET NO. 50-219  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
SEP TOPIC III-7B  
RELATED TO DRYWELL TEMPERATURE (TAC NO. 76879)

This letter is in response to your verbal request for the back-up calculations for GPU Nuclear Technical Data Report (TDR) No. 713, entitled "OCNGS Upper Drywell Shield Wall Thermal Analyses", which was transmitted to you via our letter of November 15, 1990. Since the TDR was written, we have undertaken a more comprehensive evaluation of the structural integrity of the Reactor Building, including the upper drywell shield wall. This evaluation included the following components: (1) all paperwork relating to concrete issues was reviewed to assess trends; (2) the structure was walked down several times by our staff in an effort to seek out any signs of unexpected degradation; (3) the cracks observed in Girder RE and the underside of the slab at elevation 75' beneath the spent fuel pool were examined using NDE techniques (Reference 2); and (4) a comprehensive analysis of the north half of the Reactor Building was completed to predict cracks and correlate to observed cracks and to reevaluate the structure for the design basis loads and load combinations with respect to the ACI Code requirements.

The analysis of the north half of the Reactor Building was performed using an ANSYS finite element model. The model extends from Column Line R4 to R7, from Column Line RA to RF and from elevation 23' to 119'. It includes the drywell shield wall, spent fuel pool and supporting girders and columns, floor slabs at elevations 51', 75', 95' and 119', and the east, west and north exterior walls. The analysis incorporates findings from the first three (3) components of the evaluation listed above and includes all design basis loads. The analysis procedure allows for concrete cracking and subsequent redistribution of internal forces.

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The results of the analysis are discussed in the attached GPU Nuclear Topical Report No. 088. Based on the analysis and the other components of the evaluation, we have concluded: (1) the paperwork did not indicate an adverse trend relating to concrete degradation; (2) the walkdown did not reveal any unexpected degradation; (3) the cracks in Girder RE are confined to the surface and the crack in the slab at elevation 75' is through the thickness (i.e., the crack penetrates the entire thickness of the slab) and was found to be acceptable. It was concluded in the analysis that the Reactor Building complies with the ACI Code for all design basis loads and load combinations (attached Report). Further, we are able to explain the origins of virtually all the observed cracks in the structure.

If you have any questions regarding the information provided in this letter and/or the attached report, please call Mike Laggart, Manager, Corporate Licensing, at (201) 316-7968.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'J. C. DeVine, Jr.', written over a horizontal line.

J. C. DeVine, Jr.  
Vice President and  
Director Technical Functions

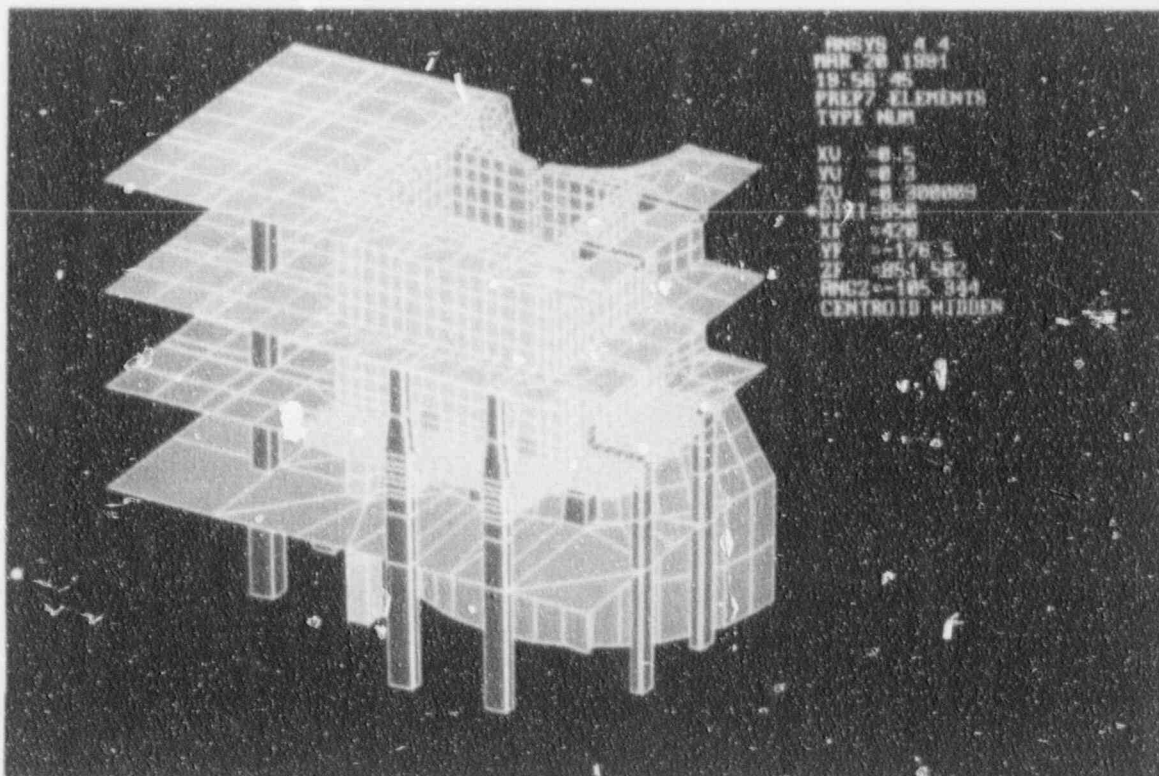
JCDV/YN:lga

Attachment

cc: Administrator, Region 1  
NRC Senior Resident Inspector  
Custer Creek NRC Project Manager



## OYSTER CREEK NUCLEAR GENERATING STATION STRUCTURAL EVALUATION OF THE SPENT FUEL POOL



Prepared for:

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Report No. 03-0370-1341  
Revision 0  
June 29, 1992

**ABB**  
ASEA BROWN BOVERI  
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