



CHARLES CENTER • P.O. BOX 1475 • BALTIMORE, MARYLAND 21203

January 24, 1986

Mr. Anthony A. Varela  
United States Nuclear Regulatory Commission  
Region 1  
631 Park Avenue  
King of Prussia, PA 19406

SUBJECT: Calvert Cliffs Nuclear Power Plant Units 1 and 2  
FCR 80-1024: Masonry Walls  
NRC I&E Bulletin 80-11

Dear Mr. Varela:

During your recent on-site review of concrete masonry walls in connection with our response to NRC Bulletin 80-11, a concern was noted by your staff with regard to three walls located at elevation 45'-0" in the auxiliary building. The walls in question surround stair AB-5 adjacent to the Unit 1 containment building, and are identified as walls "T", "U" and "W".

The concern stems from the apparent absence of steel dowels used to connect the top of the walls to the underside of the slab at elevation 69'-0".

Since the original evaluation of these walls was based on the lateral support provided by these dowels, an apparent inconsistency exists between the assumptions made for the evaluation of these walls and the actual field conditions. This inconsistency resulted in an unresolved item at the exit meeting held on January 17, 1986.

To formulate a comprehensive plan of action leading to the resolution of this concern, a detailed review of the boundary conditions, geometric properties, and assumptions made to perform the original evaluation of these walls, was undertaken.

Our review indicates the approach used in the evaluation, conservatively neglected the stiffening effect afforded by the steel framed concrete landings connected to the walls at elevations 51'-4", 57'-0" and 63'-4".

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Thus, the original evaluation considerably underestimated the capacity of the walls, since the boundary conditions assumed, yielded conservations above those outlined in our response of June 12, 1985.

In light of the apparent margins available in the design of the walls in question, we do not believe that a safety implication exists. However, in order to effect a comprehensive approach to the resolution of your question and document the safety margins we have previously outlined, the following options will be considered:

1. Quantify all available margins by reperforming detailed analysis of the walls. The analysis would consider plate action of the walls, the support afforded by the stair landings and the as-built condition of the walls.
2. Restore the extreme conservations inherent in the original evaluation by providing lateral support at the top of the walls. This option would involve the addition of steel shapes at the top of the walls to transfer lateral loads to the concrete floor slab.
3. Depending on the accessibility of certain portions of the walls, a combination of options 1 and 2 will also be considered.

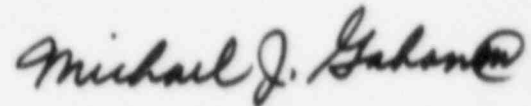
Upon completion of this work, a report summarizing the options used and outlining the results will be transmitted for your review. This report should be completed by April 1, 1986.

We further reaffirm your conclusion at the Exit Meeting that this is not a generic issue. Several reasons support this conclusion:

- A. The mirror-image wall in Unit 2, "EE", which sees similar operating conditions, appears to be in excellent shape.
- B. Numerous walls viewed during the walkdowns typically show high quality workmanship.
- C. The walkdown survey package for Wall "T" was the only one representing a concern.

Should you have further questions, please call me at  
(301) 234-5549.

Very truly yours,

A handwritten signature in cursive script that reads "Michael J. Gahan, III". The signature is written in dark ink and includes a stylized flourish at the end.

Michael J. Gahan, III, P.E.  
Senior Engineer  
Nuclear Engineering Services Department

MJG/ps

cc: W.J. Lippold  
R.F. Ash/File  
D.T. Ward  
L.E. Salyards  
M. Nitzel, EG & G  
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