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November 19, 1993  
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U. S. Nuclear Regulatory Commission  
Att: Document Control Desk  
Washington, DC 20555

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station (OCNGS)  
Docket No. 50-219  
Request for Additional Information - SEP Topic III-7B,  
Shield Wall Temperature (TAC No. M76879)

Your letter dated July 26, 1993 requested additional information relating to SEP Topic III-7B.

As requested, we have calculated stresses in the concrete and reinforcing bars in the drywell shield wall above elevation 95 ft. We have also determined that the stresses are below allowables considering the existing (cracked) condition of the shield wall. Attached is a report (ABB Impell Corporation Report No. 0037-00196-01, Rev. 0, dated September 20, 1993) which provides stresses in the concrete and steel and percent margin compared to allowables at each critical section. As you requested, all values are provided for load combinations 3.3.2c and 3.3.2d from the original Impell report (p. 39).

The analysis predicts cracking of the outside surface of the drywell shield wall above elevation 95'0". However, the analysis does not predict cracking of the inside surface except locally around the notch in the south wall of the spent fuel pool. A visual inspection of the outside surface of the wall was conducted and no indication of reinforcing corrosion was observed.

During normal plant operation, very little moisture is present in the vicinity of the drywell shield wall due to the relatively high temperatures. During refueling activities, the reactor cavity is flooded and the inside surface of the wall is exposed to the water. However, a steel plate covers this surface and prevents the water from directly contacting the concrete. While water leaks past this plate, it is not expected to cause substantial corrosion of the reinforcement due to the small percentage of time the cavity is flooded.

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To obtain an estimate of the amount of corrosion that might have occurred, we reviewed loss of metal in the drywell shell in this area of the plant. In the upper regions of the drywell, approximately .020 inches in thickness of the drywell shell has been lost. If the No. 8 and No. 11 reinforcing bars present in the vicinity of the notch lost this amount of metal all around, the reduction in steel area would be only 10% and 4% respectively.

Given the minimal amounts of time the reinforcing is exposed to moisture, the fact that concrete provides an alkaloid environment which limits corrosion of reinforcing, and the fact that no indication of corrosion has been observed, GPU Nuclear is confident that significant corrosion has not occurred and will not occur in the future. Since significant margin exists between calculated reinforcing stresses and allowable stresses, and since the analysis indicates the spent fuel pool does not require any structural support from the drywell shield wall, GPU Nuclear believes that the adequate structural integrity of the shield wall is maintained.

Sincerely,



R. Keaten  
Director, Technical Functions

Attachment  
RK/YN/plp

cc: Administrator, Region I  
NRC Resident Inspector  
Oyster Creek NRC Project Manager