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August 24, 1979

Mr. T. Wambach
 U.S. Nuclear Regulatory Commission
 Washington, DC

Dear Mr. Wambach:

Subject: Oyster Creek Nuclear Generating Station
 Systematic Evaluation Program
 Seismic Design Review

In accordance with your request of July 18, 1979, at the Oyster Creek site, we are in the process of performing and assembling the additional seismic design analyses and documentation you indicated you will need to complete your review of the seismic design of Oyster Creek. While not all of the requested information is available at this time, a significant portion is and is being transmitted herewith. The specific information which is enclosed is as follows:

1. Analyses of Intake Structure - The intake structure was originally designed as a Seismic Class II structure. However, Amendment No. 22 to the Oyster Creek Facility Description and Safety Analysis Report (FDSAR) reports that analyses were performed which show the intake structure meets Class I seismic criteria. These seismic analyses have not been located. Accordingly, additional analyses have been performed for JCP&L both by URS/Blume and Burns and Roe. These analyses are attached as Enclosure 1 and confirm that the intake structure meets Class I seismic criteria.
2. Analyses of Emergency Condenser - Enclosure 2 includes available analyses and design data from the emergency condenser supplier, Foster Wheeler and additional analysis performed by Burns and Roe. Note that in the analyses 1-1/8" diameter hold down bolts were assumed but 1" diameter bolts were installed. Evaluation of bolt loads calculated by Foster Wheeler shows that 1" diameter bolts are adequate.
3. Analyses of Battery Racks - Seismic analyses for the "C" battery racks and the procedure to be followed in planned seismic qualification tests of the battery cells are given in Enclosure 3.
4. Analyses of Instrument Racks - Results of seismic analyses by J. A. Blume and Associates of Oyster Creek instrument racks RK01 and RK05 are contained in J. A. Blume letter report dated December 20, 1968, which is attached as Enclosure 4. As indicated on page 5 of the report, these results are also applicable to the other Oyster Creek instrument racks (RK02, RK03, and RK04) and show that the racks and their hold down bolts are adequate for seismic loads.

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5. Reactor Vessel Stress Report - The reactor vessel stress analysis report, Combustion Engineering Report No. CENC-1143, and referenced vessel design drawings are presented in Enclosure 5.
6. Reactor Vessel Support Analyses - Enclosure 6 includes design calculations for the reactor vessel lower ring girder support and for the horizontal stabilizer installed at Elevation 82'-9".
7. Seismic Analysis of Containment Spray Heat Exchangers - Originally installed containment spray heat exchangers were recently replaced with heat exchangers manufactured by Perfex (McQuay-Perfex, Inc.). Design calculations for both seismic and piping loads are attached as Enclosure 7.
8. Evaluation of Emergency Service Water Pumps - As discussed during our meeting on July 17 and 18, 1979, the emergency service water pumps were selected for evaluation as an example of a vertical pump during a previous "walk-through" of the plant by JCP&L representatives. Analyses were performed to determine the displacement of the cantilevered volutes and the adequacy of the anchor bolts under seismic loads. The pump vendor (Byron-Jackson) was contacted to assess the effect of the calculated displacement on pump performance. The results of these evaluations are given in Enclosure 8 and indicate the pump is adequate from both structural and functional standpoints for seismic loads.
9. Analysis of Condensate Storage Tank Hold Down - By letter dated March 14, 1968, J. A. Blume and Associates reported results of a seismic analysis of the condensate storage tank. The Blume letter concluded that the condensate storage tank is adequate for seismic loads except that the anchor bolts should be modified if friction between the tank and its foundation is ignored. Burns and Roe letter dated August 26, 1968 reported the results of their evaluation of the Blume analysis and indicates that friction between the tank and foundation exists and, when considered, eliminates the need for any modification to the anchor bolts. These letters are given in Enclosure 9.
10. Recirculation Pump Support Design - General Electric Drawings 107CS076 and 237E907 are included in Enclosure 10 and show recirculation piping system geometry and pump support system design. Recirculation piping system seismic and flexibility analyses were previously provided as References 9 and 10 respectively, of our July 9, 1979 submittal.
11. Effect of Valve Eccentricity on Piping Stresses - As a part of JCP&L's review of the seismic design of Oyster Creek, approximate analyses based on conservative assumptions were made to determine the effect of eccentric masses due to valve operators on the stresses in the attached piping and in the operator support (valve yoke). The analyses included in Enclosure 11 were performed for typical 6-, 8-, and 10-inch motor operated valves and show that the combined stresses are within appropriate allowables. In addition to these analyses, we are investigating whether there are any 4-inch or smaller motor operated valves in systems which are part of the seismic review and will perform similar analyses for these smaller applications if required.

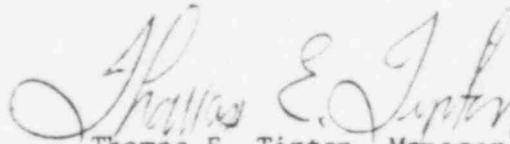
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12. Evaluation of Emergency Diesel Oil Storage Tank - Original seismic design calculations for the emergency diesel oil storage tank have not yet been located. Accordingly, an approximate analysis has been performed by Burns and Roe. This analysis is given in Enclosure 12 and shows that adequate resistance to sliding and overturning is available.

Additional information requested by the NRC during the July 17 and 18, 1979 meeting at Oyster Creek is being developed and will be transmitted when available.

Please contact me if you have any questions on the attached documents.

Sincerely,



Thomas E. Tipton, Manager
Environmental Affairs

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Enclosures

CC: Messrs. Y. Nagai
W. R. Schmidt

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