



ENCLOSURE 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
DEC 1 1983

Mr. Clinton S. Matthews, Vice President
and General Manager
Transamerica Delaval, Incorporated
550 85th Avenue
P. O. Box 2161
Oakland, California 94621

Dear Mr. Matthews:

The purpose of this letter is to follow up on an agreement between Mr. Bixby and Mr. Denton that members of their respective staffs meet, possibly as early as the week of December 12, 1983, at our offices in Bethesda, Maryland, to discuss several technical issues regarding the Transamerica Delaval, Inc. (TDI) diesel generators which are installed at nuclear power plants in the United States. The meeting would be publicly noticed, and an NRC staff meeting summary would be placed on the docket of all nuclear power plants using TDI diesel generators. The Enclosure to this letter consists of a list of questions which we propose to use as an agenda for the meeting. If some of the questions will require additional time to answer, then a later written response would be acceptable. If proprietary information must be discussed, the meeting may be closed and the information may be withheld from public disclosure, in accordance with the provisions of Section 2.790 of the Commission's regulations. Please contact Mr. R. Caruso (301) 492-8392, of my staff, to discuss the details of the meeting.

Sincerely,

Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/ enclosure:
See next page

XA Copy Has Been Sent to PDR

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XA

Enclosure

1. Describe the history and evolution of the crankshaft design of DSR-48 diesel generators.
2. The original Shoreham crankpins were 11 inches in diameter, but the replacement crankshaft has 12 inch crankpins. Please discuss the reasons for the change in size, and the reasons for any other changes in geometry, metallurgy, or fabrication of the crankshaft.
3. Other vendors who supply components or services to the nuclear power industry have formal methods of informing their customers of problems or product improvements. Please Describe TDI's program for such notification.
4. In its report on the crankshaft failure, LILCo's consultant noted that the forcing function used by TDI in its torsional analysis changed significantly between 1975 and 1983. Describe the history and development of the forcing functions used by TDI in assessing the adequacy of its V-16 and straight-8 engines. Please explain how the effects of changes in the forcing functions have been evaluated to ensure that these changes can be accommodated by the various parts of the engines.
5. Describe TDI's efforts in understanding the causes of the Shoreham crankshaft failures. Include in your response any conclusions you have reached after considering the report by LILCo's consultant, and a description of any actions you have taken or plan to take as a result of these failures.
6. Design calculations for major pieces of equipment are usually independently checked and verified. Explain how this process was carried out for the original and replacement crankshafts. Include, if possible, examples of actual calculations or tests which were done to verify the design.
7. LILCo has also identified problems with failures of the diesel engine connecting rod bearings. We understand that they have provided you with a copy of their initial report on the subject. Please describe the history of the design and manufacture of the connecting rod bearings in TDI engines. Discuss how the bearing material specifications have developed, including any changes since the Shoreham engines were built and the bases for such changes. Also describe the processes by which TDI ensured that the material met the specifications.

If you have experienced any other bearing problems in other TDI engines, please discuss them.
8. Discuss the history and evolution of the design of the pistons used in TDI engines.