

DEC 28 1983

Docket Nos. 50-445/446

Mr. R. J. Gary
Executive Vice President and
General Manager
Texas Utilities Generating Company
2001 Bryan Tower
Dallas, Texas 75201

Dear Mr. Gary:

Subject: Request for Additional Information Regarding Transamerica
Delaval Emergency Diesel Generators - Comanche Peak Nuclear
Power Station (Units 1 and 2)

The enclosed letter from Mr. T. M. Novak to Mr. J. P. McGaughey contains a series of questions that the staff has developed regarding Emergency Diesel Generators manufactured by Transamerica Delaval, Inc. (TDI). Notwithstanding the attention being directed by the TDI owners group to these questions, we request that you ensure that they are answered specifically for your TDI diesel engines. This may be done by reference to an owners group report or by a plant-specific report.

If you have any questions, please contact the Licensing Project Manager, S. B. Burwell at (301) 492-7563.

Sincerely,

ORIGINAL SIGNED BY:

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

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LB#1: JL
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12/28/83

LB#2: DL
RCaruso
12/28/83

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A PDR

Mr. R. J. Gary
Executive Vice President and
General Manager
Texas Utilities Generating Company
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 27 1983

Docket Nos. 50-416/417


Mr. J. P. McGaughy
Vice President
Nuclear Production
Mississippi Power & Light Company
P. O. Box 1640
Jackson, Mississippi 39205

Dear Mr. McGaughy:

Subject: Delaval Diesel Owners Group Activities

Based on my discussion with you on December 22, 1983, in your capacity as chairman of the owners group for providing a unified response to concerns that have arisen regarding Transamerica Delaval emergency diesel generators, I am enclosing a list of NRC staff questions concerning Delaval diesels. We would expect that the majority of these questions address generic concerns which the Owners Group could most efficiently answer. Plant-specific questions should be addressed by individual applicants. Copies of these questions will also be sent to all affected utilities for their response.

Sincerely,


T. M. Novak, Assistant Director
for Licensing
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

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Grand Gulf

Mr. J. P. McGaughy
Vice President
Nuclear Production
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P. O. Box 1640
Jackson, Mississippi 39205

cc: Robert B. McGehee, Esquire
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New Orleans, Louisiana 70161

Mr. Larry Dale
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Mr. R. W. Jackson, Project Engineer
Grand Gulf Nuclear Station
Bechtel Power Corporation
Gaithersburg, Maryland 20760

Mr. Alan G. Wagner
Resident Inspector
Route 2, Box 150
Port Gibson, Mississippi 39150

REQUESTS FOR ADDITIONAL INFORMATION
DELAVAL DIESEL GENERATOR EVALUATION

1. Provide a copy of the procurement specifications to which the standby diesel generators (DG) were ordered.
2. Provide the performance specification and inspections performed upon receiving the DGs to show that the procurement specifications were met.
3. Identify the materials used in the design of the DGs at your plant (specifically limiting components such as crankshafts, camshafts, pistons, rocker arms, bearing materials, cylinder blocks, cylinder heads, pumps, turbochargers, etc.). Discuss how you assured yourself that design materials used in the manufacture of your DGs were as stated and in accordance with materials described in the TDI proposal, purchase specifications, and conformance to industry standards.
4. Does TDI have a program where parts/components, etc., are modified (such that design margins are reduced) in order to improve operability and DG reliability. Does this apply to any DG parts at your plant. Provide a list of product improvements made by TDI on your model DG and identify and justify which of these were not incorporated on your diesels.
5. If applicable, provide responses to all NRC open items on standby DGs at your plant.
6. Identify each of your DGs by model number and rating (continuous duty and short time overload) as purchased and discuss all tests (including torsional and other design proof tests) performed on the DGs that were observed (also those not observed) by you at the manufacturer's facilities.
7. In addition to qualifications tests that were performed in accordance with regulatory guides 1.9 and 1.108, and IEEE Std. 387, describe all other onsite tests performed on your DGs.
8. In addition to any deficiency reports already provided to the NRC, summarize and describe problems encountered and resolved during installation and preliminary operation of the DGs. During this period, were any unusual or abnormal operations observed such as excessive vibration, noise, etc., and how were these conditions corrected. Provide a detailed summary of the complete operating histories of your DGs.

9. Tabulate, compare and discuss differences in present actual DG loading to estimated loads included in the procurement specifications. Identify the magnitude of the increased load (if any) on the DGs and describe how the increased loading affects the DG capability with regard to reserve margin.
10. If DG loading has increased from that specified in the procurement specifications, has it been necessary to upgrade the standby DGs to meet the new load requirements. If DG upgrading has been performed, provide a detailed description of the upgrading accomplished on your DGs. What is the revised manufacturer's rating for each upgraded unit for normal continuous duty and short time overload conditions. Is the DG built-in design margin (after upgrading) still within the recommendations of IEEE Std. 387. What is the reserve load carrying capability (margin) of your upgraded DGs.
11. In light of the problems that have been identified to date with Delaval diesels, discuss your plans to perform an internal visual inspection of each standby DG with regard to potential crankshaft and/or web cracks as identified at the Shoreham Station and provide a detailed discussion of your plans to perform any non-destructive testing (NDT) such as dye penetrant testing, etc., as deemed appropriate to assure absence of cracks at these locations or at any other locations where cracks may have been observed. Discuss schedules for such testing.
12. Justify that the standby DGs at your plant are sufficiently reliable that there will be reasonable assurance that the facility can operate without undue risk to the health and safety of the public. Your justification should include, but not be limited to the following: (1) quality assurance program conducted by you during procurement, manufacturing and receipt of your DGs, (2) your assessment of the TDI manufacturing process, inspection, and quality assurance program conducted during manufacture of your DGs, (3) your assessment of TDI responsiveness to problems that have occurred with your engines during installation and preliminary operation including assessment of TDI performance, (4) comparison of your DGs with all other TDI emergency

DG models now in use or to be used in other nuclear generating stations (and other non-nuclear facilities) to show that the conditions and/or failure modes present at Shoreham will not occur at your plant and at other nuclear plants; provide any supporting information that may be obtained from non-nuclear installations, (5) independent review or verification of any TDI design calculations for critical components of your DGs, and/or other means used to assure that your DGs are designed to DEMA standards and applicable industry codes and standards, and (6) your overall assessment of the DGs at your plant with regard to TDI system design, operating experience to date, and system

dependability, availability and reliability to warrant operation of your plant.

13. Provide a tabulation of the number of times (including each date of occurrence) voltage was lost at the emergency bus(es) requiring operation of the DG(s) including a brief description of each incident. In the above tabulation, also identify the loss of emergency bus voltage due to loss of offsite power.
14. Shoreham has identified connecting rod bearing materials are not in accordance with design specifications on their engines. This condition may also exist on all other TDI diesels. Provide assurance that correct bearing design and materials have been used in your engines. Should you find that improper bearings have been used in your diesels, state how and when you propose to correct this problem.
15. Most of the piston skirts in the Shoreham diesels were cracked. Because of a common cylinder design for all TDI diesels, it is presumed that this condition potentially exists on all other TDI diesels. Discuss your plans, including internal inspection or other means to determine the potential or actual existence of such cracking. In your response, indicate whether the design and materials are identical to those in the Shoreham units; if not identify differences. Identify any corrective actions you have taken to date or plan to take.

The staff understands that TDI has a piston design modification to correct the above problem. Are you aware of this and has TDI transmitted this service information to you?

16. What maintenance and/or operating practices have you developed to assure optimum reliability of your diesel generators at your plant?
17. What surveillance practices in addition to those required by plant technical specifications have you instituted to assure optimum reliability of your diesel generators at your plant.