



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Docket File

JUN 1 9 1984

Docket No.: 50-445

Mr. M. D. Spence
President
Texas Utilities Generating Company
400 N. Olive Street
Lock Box 81
Dallas, Texas 75201

Dear Mr. Spence:

Subject: TDI Diesel Generator Reliability Verification Required for the
Licensing of the Comanche Peak Steam Electric Station, Unit 1

The purpose of this letter is to respond to Mr. J. B. George's inquiry as to what plant-specific action must be taken by Texas Utilities (TUGCO) regarding TDI diesel generators prior to the licensing of Comanche Peak, Unit 1.

To date, TUGCO has provided the following plant-specific information which the NRC staff is considering in its review of the reliability of the TDI diesel generators at Comanche Peak:

1. Comanche Peak diesel generator requalification program (submitted by TUGCO letter TXX-4163 dated April 30, 1984).
2. Comanche Peak plant-specific responses to NRC staff information requests related to the generic analyses being performed by the TDI Diesel Generator Owners Group (submitted by TUGCO letter TXX-4165 dated May 3, 1984).

The requalification program submitted by the April 30, 1984 letter provided detailed inspections and procedures relative to the disassembly, reassembly and operability checks of the reassembled Unit 1, Train A and Train B, TDI diesel generators.

Prior to licensing, TUGCO must submit for staff review a comprehensive report detailing the inspections performed under the requalification program to enable the staff to determine the acceptability of the reassembled TDI diesel generators for the licensing of Unit 1, and to permit Unit 1 operation through the first operating cycle. The report must include detailed descriptions of the types of inspections performed on the diesel generator component parts, inspection findings, the nature of component defects found if any and

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their disposition, component replacements and the basis for their replacements including upgraded component designs installed in the reassembled diesel generators, and the results of the Train A and Train B TDI diesel generator operability checks performed. The report should identify all applicable Phase I recommendations from the TDI Owners Group and the TUGCO responses to those recommendations. The status of the TUGCO implementation of Phase II of the Owners Group Program (i.e., re DRQR program) should also be provided. This report should be accompanied by an evaluation which provides the technical basis upon which TUGCO believes that the requalified TDI diesel generators can be operated and perform their intended function reliably through the first operating cycle. Finally, TUGCO should provide a description of its maintenance inspection, and surveillance program for its TDI diesel generators. For your information, we are enclosing preliminary comments by the NRC staff to a previous proposal by Mississippi Power and Light (MP&L) Company pertaining to their maintenance and surveillance program. The staff has made no findings to date as to whether these comments should be applicable to the Comanche Peak diesel generators.

The NRC staff is proceeding with its review to establish the requirements necessary to confirm the suitability of the TDI diesel generators for the service life of the Comanche Peak plant, as a part of its assessment of the TDI Diesel Generator Owners Group Generic Program, the results of which will be communicated to you at a later date.

Within ten (10) days after receipt of this letter, please advise when we may expect to receive the Unit 1 comprehensive TDI diesel generator report required for operation during the first operating cycle and your schedule for NRC action, so that resources can be scheduled accordingly. If there are any questions or further clarifications concerning the content of the comprehensive report please contact the Project Manager, John Stefano or Spotswood Burwell.

Sincerely,

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

cc: See next page

CONCURRENCES: *See previous concurrences

*DL:LB#1	*DL:LB#1	*AD:DL	*DL	*CPB	*AD:SA
JStefano:es	BJYoungblood	TMNovak	Tippolito	CBerlinger	FMiraglia
6/14/84	6/14/84	6/18/84	6/14/84	6/15/84	6/15/84

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COMANCHE PEAK

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These 13 tests must be performed satisfactorily at the first attempt, i.e., the 10 modified starts should be performed successively with no failure. A failure is defined as an inability of the engine to start, or an abnormal condition during the respective run which would ultimately preclude the engine from continuing to operate. If the preoperational tests are not satisfactorily completed in the first attempt, the NRC staff will review the need for additional testing requirements.

3.3 Maintenance, Inspection and Surveillance

Detailed maintenance, inspection, and surveillance requirements should be established in conjunction with the engine manufacturer's recommendations and should include all maintenance, inspection, and surveillance identified by MP&L in References 4, 5, and 6. In addition, special attention should be given to selected components as described below. If defects are noted, the parts should be replaced. The nature of the defect will determine if this is all that is required.

- A. Cylinder heads - Following engine shutdown, the engine should be rolled over with air pressure after four hours (during cooldown) with the indicator cocks open. Subsequent to cooldown, engines should be air rolled every 24 hours. Any cylinder heads discovered leaking must be replaced. MP&L should confirm that the written procedures are adequate to ensure that the cocks are closed following each air roll.
- B. Engine block and base - Inspect the engine block and base every month or 24 hours of operation, whichever comes first. The inspection should be an external visual inspection requiring no disassembly. No other special maintenance is required if any defects found are "non-critical." Non-critical indications are defined as not causing oil or water leakage; not propagating; and not adversely affecting cylinder liners or stud holes.
- C. Connecting rods - After each interval of 25 starts, 50 hours of operation or 6 months, whichever occurs first, all connecting rods should be visually inspected and all connecting rod bolts should be retorqued and the results recorded.
- D. Lube oil checks - The lube oil should be checked for water following preoperational testing and then weekly and after each 24 hours of operation, whichever comes first. It should also be checked on a monthly basis for particulates and chemical contaminants associated with wear of bushings and bearings. Also at intervals of one month, a sample should be collected from the bottom of the sump to check for water. All filters and strainers should also be checked monthly.

- E. Cylinder head studs, rocker arm capscrews, air start valve capscrews - Each month 25% of the capscrews should be spot checked for torque.
- F. Push rods - Following preoperational testing and then subsequently after each 24 hours of operation, cams, tappets, push rods, etc. should be visually checked. This can be done one at a time with the engine shutdown but without affecting its availability for service.

Items A through F above apply to both engines. For the engine(s) which are disassembled and inspected in accordance with Section 3.1 above, the starting point for implementing items A through F should be upon engine reassembly; therefore, subsequent pre-operational testing should be included in the appropriate maintenance, inspection, and surveillance intervals above. Should it not be necessary to disassemble and inspect the Division II engine in accordance with Section 3.1, items A through F above should be implemented. One hour of engine operation at any load is considered to be one hour of engine operation in determining inspection intervals.

3.4 Additional Surveillance

During standby, the lube oil filter pressure drop should be checked daily rather than monthly as suggested by MP&L. Hot and cold deflection tests of the crankshaft should be performed every 6 months with the hot deflection test performed within 15 minutes of engine shutdown.

During engine operation, the exhaust temperature for each cylinder should be monitored continuously by the operator and recorded on a log at hourly intervals, as should the temperatures entering and exiting the turbocharger. Other temperature and pressure readings for which the engine is instrumented should also be monitored continuously, and recorded hourly, or more frequently if specified by the manufacturer. These should at least include lube oil, jacket water, intercooler temperature, and air pressure. If the engine is equipped with an accelerometer on the main bearings and turbocharger, these should also be monitored continuously and recorded at hourly intervals. If the engine is not equipped with an accelerometer at these points, main bearing oil temperature should be monitored continuously and recorded hourly. Also, lube oil filter pressure should be monitored daily during engine operation.