

GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
AREA CODE 504 635-6094 346-8651



June 24, 1985
RBG- 21,384
File Nos. G9.5, G9.25.1.1

Mr. Robert D. Martin, Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Dear Mr. Martin:

River Bend Station - Unit 1
Docket No. 50-458
Final Report/DR-312

On June 7, 1985, GSU notified Region IV by telephone of DR-312 concerning abnormal wear on the turbocharger turbine shaft and journal bearing for standby diesel generator 'B' supplied by Transamerica Delaval, Incorporated. GSU has determined that DR-312 meets the reporting requirements of 10CFR50.55(e). The attachment to this letter is GSU's final 30-day written report pursuant to 10CFR50.55(e) (3) with regard to this deficiency.

Sincerely,

J. E. Booker

J. E. Booker
Manager-Engineering,
Nuclear Fuels & Licensing
River Bend Nuclear Group

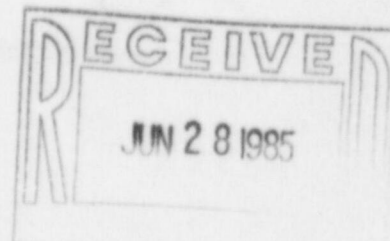
PJD
JEB/PJD/amg

Attachment

cc: Director of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC Resident Inspector-Site

INFO



85-533

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ATTACHMENT

June 24, 1985

RBG- 21,384

DR-312/TURBOCHARGER TURBINE SHAFT
AND JOURNAL BEARING FOR STANDBY
DIESEL GENERATOR 'B'

Background and Description of the Problem

The deficiency concerns abnormal wear on the turbine shaft and journal bearing of the Elliot Model 90G turbocharger on standby diesel generator 'B' supplied by Transamerica Delaval, Incorporated (TDI) as described on Nonconformance and Disposition Report (N&D) No. 11,811. The problem was discovered during a scheduled disassembly and inspection of the turbocharger. The wear area was on one side of the shaft at the compressor end and corresponded with bearing wear patterns indicative of excess loading.

Prior to the inspection, the turbocharger had been operating normally and increased vibration was not observed. The purpose of the inspection was to perform a preventative inspection of the thrust bearings as recommended by the TDI Owners Group after 100 starts. At the time of the inspection, the turbocharger had operated 275 hours.

Results of shaft runout measurements revealed a maximum amount of 0.004 inch at the compressor end of the shaft. The V-block locations selected for the measurements corresponded to the bearing locations. The runout limit specified by Elliot is 0.0005 inch.

The apparent cause of the deficiency is inadequate inspection either at manufacture or during site assembly and inspection. No circumstances have been identified which might have caused a shaft bow while in service.

The first inspection, performed in 1984 under the supervision of an Elliot representative, did not reveal abnormal journal bearing wear. The Elliot instruction manual calls for measurement of rotor assembly end play at assembly, and this was done with satisfactory results as documented on Inspection Report No. M4000592. The Elliot manual does not require measurement of shaft runout.

The problem is considered an isolated case. The turbocharger on standby diesel generator 'A' was similarly inspected and no abnormal journal bearing wear was present. No reports of similar difficulties have been received from other owners.

Safety Implication

If the condition had not been detected during normal maintenance and surveillance testing, then the progressive degradation of the journal bearing could have resulted in turbocharger failure. The inoperability of standby diesel generator 'B' concurrent with a loss of offsite power and the failure of standby diesel generator 'A' would cause a station blackout condition thereby affecting the safe operations of the plant.

Corrective Action

The turbocharger rotor assembly was replaced with a new rotor as described on N&D No. 11811. The instruction manual for the Elliot turbocharger will be revised to include a requirement to measure shaft runout when the turbochargers are disassembled.