

400 Chestnut Street Tower II

July 14, 1981

HTRD 50-518, -519, -520, -521/81-06
PBRD 50-553/81-07, -554/81-05

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303



Dear Mr. O'Reilly:

HARTSVILLE AND PHIPPS BEND NUCLEAR PLANTS - REPORTABLE DEFICIENCY -
TRANSAMERICA DELAVAL DIESEL GENERATOR TURBOCHARGER THRUST
BEARINGS (HTRD-50-518, -519, -520, -521/81-06, PBRD-50-553/81-07,
-554/81-05)

The subject deficiency was initially reported to NRC-OIE, Region II, Inspector R. W. Wright on January 30, 1981, as NCR's HTA MEB 81-02, HTB MEB 81-02, and PBN MEB 81-01. The first interim report was submitted on March 3, 1981. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing the final report on the subject deficiency. We consider 10 CFR Part 21 applicable to this nonconformance. If you have any questions, please call Jim Domer at FTS 857-2014.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Millis, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE
HARTSVILLE AND PHIPPS BEND NUCLEAR PLANTS
TRANSAMERICA DELAVAL TURBOCHARGER THRUST BEARINGS
HTRD-50-518, -519, -520, -521/81-06
PBRD-50-553/81-07, -554/81-05
REPORT NO. 3 (FINAL)

Description of Deficiency

Transamerica Delaval Incorporated (TDI) informed TVA of a potential defect in a component of the standby diesel generators which have been supplied to the Hartsville and Phipps Bend Nuclear Plants. This potential problem was reported to the NRC-OIE under 10CFR Part 21 in a letter dated December 18, 1980, from Clinton S. Mathes of TDI to the NRC. The potential defect exists in the lubrication oil system that supplies oil to the turbocharger bearings. The design of this system permits lubricating oil to flow to the bearings only when the engine is running. The oil seal of the turbocharger is a labyrinth type seal which is only effective when the turbocharger is running. Because of the possibility of seal leakage when the turbocharger is in standby mode, the turbocharger lube oil system is bypassed at this time. This defect may result in the turbocharger thrust bearings being prematurely worn. This condition could result in the unavailability of the diesel generator.

Safety Implications

The diesel generators constitute the preferred source of electrical power for essential safety features in the event of offsite power loss. Therefore, the diesel generators must be maintained at high levels of confidence in order to assure emergency operation of essential safety features. If this potential defect had gone uncorrected and resulted in a failure of the diesel generators, this vital source of onsite emergency power would be eliminated, which would constitute a degradation in the safety of operations of the facility.

Corrective Action

TDI has supplied TVA with the details of a design change that will correct this deficiency. This change involves modifying the turbocharger lubrication piping to include piping from the pressurized main header to the turbocharger through a 0.014-inch orifice. The vendor (TDI) maintains that this modification will compensate for any seal leakage, when the diesel generator is in the standby mode, by providing the turbocharger with an alternate source of lubrication during these times. TVA will implement this modification before preop testing of this system.

TVA will continue to review correspondence from TDI regarding these diesel generators. If a future problem does occur, TVA will report their actions to the NRC as is required under 10CFR50.55(e).