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400 Chestnut Street Tower II

July 14, 1981

BLRD-50-438/81-14
BLRD-50-439/81-14

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:

BELLEVILLE NUCLEAR PLANT UNITS 1 AND 2 - TRANSAMERICA DELAVAL DIESEL
GENERATOR TURBOCHARGER THRUST BEARING - BLRD-50-438/81-14,
BLRD-50-439/81-14 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. W. Wright on January 27, 1981, in accordance with 10 CFR 50.55(e) as
NCR BLN MEB 8101. This was followed by our first interim report dated
February 25, 1981. Enclosed is our final report. We consider 10 CFR Part
21 to be applicable to this deficiency. This deficiency was also reported
on TVA's Hartsville and Phipps Bend Nuclear Plants.

If you have any questions concerning this matter, please get in touch with
D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
TRANSAMERICA DELAVAL DIESEL GENERATOR TURBOCHARGER THRUST BEARING
BLRD-50-438/81-14, BLRD-50-439/81-14
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Transamerica Delaval Incorporated (TDI) informed TVA of a potential defect in a component on some of their standby diesel generators. 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 Impl.

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 preoperational 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 10 CFR 50.55(e).