

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

September 8, 1982

WBRD-50-390/82-26
WBRD-50-391/82-23

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

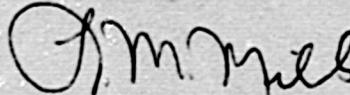
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - INCORRECT LUBE OIL USED IN DIESEL
GENERATORS - WBRD-50-390/82-26, WBRD-50-391/82-23 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crlenjak on February 25, 1982 in accordance with 10 CFR 50.55(e)
as NCR W-88-P. Interim reports were submitted on March 30 and June
1982. Enclosed is our final report.

If you have any questions, please get in touch with R. H. Shell at
FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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ATLANTA, GEORGIA

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ENCLOSURE
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
INCORRECT LUBE OIL USED IN DIESEL GENERATORS
NCR W-88-P
WBRD-50-390/82-26, WBRD-50-391/82-23
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Chevron Delo 400 was used as lubricant for Emergency Generator Diesel Engines. Delo 400 was 1300 ppm zinc. Lube oil with greater than 10 ppm zinc can be detrimental to the silver coating on the wrist pin bearings. The incorrect oil was initially installed in the diesels by TVA. TVA has continued to use Delo 400 in these engines. The root cause of this deficiency was the specification of Delo 400 lubricating oil without checking the vendor's specifications for chemical content. This deficiency was identified during chemical analysis of the diesel lubricating oil.

Safety Implications

If the subject condition had remained uncorrected, the silver coating on wrist pin bearings could be corroded by the zinc in the lube oil eventually leading to diesel generator engine failure. This condition could adversely affect the safe operation of the plant.

Corrective Action

All emergency generator diesel engines have been drained of oil and flushed. A representative sample of wrist pin bearings on all diesel engines has been inspected. The engines have been refilled with correct oil.

TVA reviewed its procedures for controlling lubricating oils in mechanical equipment and found them to be adequate. Also, TVA has determined this to be an isolated case where the responsible engineer failed to evaluate all the specifications given by the vendor's manual (as required by TVA procedures). All engineers involved in determining lube oil requirements have been instructed to thoroughly investigate all given parameters regarding lube oil specifications and in methods which can be used to do so.

Additionally, the following pumps from each transferred safety-related system have been surveyed and found to have the correct oil installed:

Component Cooling Water Pumps
Spent Fuel Pit Pumps
Refueling Water Purification Pumps
Spent Fuel Pit Skimmer Pumps
Containment Spray Pumps
Screen Wash Pumps
Safety Injection Pumps
Centrifugal Charging Pumps
H. P. Fire Protection Pumps