

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

WILLIAM C. SPENCER
VICE PRESIDENT

September 22, 1981



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

Serial No. 558
PSE&C/PJC:bw

Docket No. 50-404

Dear Mr. O'Reilly:

Pursuant to the provisions of 10CFR50.55(e), you were notified on September 20, 1979, concerning an apparent casting defect in the shaft bearing housing for the North Anna Unit 3 Auxiliary Feed Pump Motor 3AF-P2A.

Oil leakage from the above mentioned motor bearing housing led to an investigation that revealed defects in the casting for the lower reservoir of the shaft drive end bearing.

This investigation also led to the discovery of similar defects in pump motors 3AF-P2B and 4AF-P2A and 4AF-P2B. (4AF-P2A and 4AF-P2B are being retained as spare parts for Unit 3.)

Since Westinghouse was the manufacturer of the motors in question, they became the authorized repair agent for these deficiencies. Disassembly by Westinghouse of the bearing housings revealed the following:

1. Four indications of wire protruding through the casting to the outside (initially believed to be "wire plugs", which are prohibited by the specification).
2. Rough edges on the inside of the reservoirs.
3. Dirty reservoirs with loose metal and a black and gritty substance in the bottom of the casting.
4. Oil leakage near the shaft seals.

The following measures were taken by Westinghouse, in order to eliminate the above concerns:

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1. The wires protruding through the casting were determined not to be "wire plugs", but rather, pattern wire. Normally, these wires are fused into the casting when the molten metal is applied. If the wire protrudes through the casting, it is usually ground down, and consequently, presents no problem. In the case of these motors, the protruding wire, which must have been overlooked during the initial manufacturing process, had failed to properly fuse with the casting. In order to remedy this condition, the oil reservoirs in the four castings were TIG welded, at the point of protrusion. The castings were then dye penetrant tested and passed. A coat of belzona epoxy was applied to the inside of the oil reservoirs. The reservoirs were then coated with a white epoxy which is acid, chemical and oil resistant.
2. The rough edges on the inside of the reservoirs were eliminated by grinding, sandblasting and cleaning, in order to provide a smooth surface.
3. The black and gritty substance and loose metals in the reservoirs were attributed to pieces of the rough edges breaking off and falling into the bottom casting, and improper cleaning of the castings prior to assembly. This problem was eliminated by the grinding, sandblasting and cleaning, indicated in 2 above.
4. The shaft seals were replaced when the motors were reassembled.

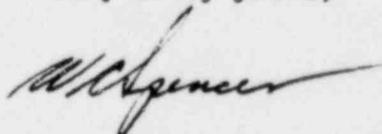
A follow-up inspection indicated that the end brackets and casings had been put back on the motors; Westinghouse had run-tested the motors (no load) and completely repainted them (for cosmetic purposes).

Our Quality Assurance representatives inspected the repairs to the defective castings and verified "no oil leakage." The repaired motors were determined acceptable by our QA personnel, and have since been shipped back to our North Anna Site.

Since no other action will be required to correct the problem described in this report, we consider this to be the final report under the provisions of 10CFR50.55(e).

Should you require further information, please contact this office.

Very truly yours,



W. C. Spencer
Vice President - Power Station
Engineering and Construction Services

cc: Mr. Robert L. Tedesco
Division of Licensing