

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

January 28, 1983

SQRD-50-328/81-19

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:

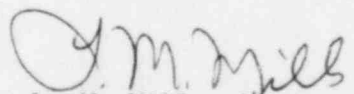
SEQUOYAH NUCLEAR PLANT UNIT 2 - GEARED LIMIT SWITCH COVERS MELTING IN
ELECTRODYNE MOTOR-OPERATED VALVES - SQRD-50-328/81-19 - REVISED FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crlenjak on February 24, 1981 in accordance with 10 CFR 50.55(e) as
NCRs SQN NEB 8112 and 29P. An interim report was submitted on March 25, 1981.
Our final report was submitted on April 10, 1981. We consider 10 CFR 21
applicable to this deficiency. Enclosed is a revised final report for this
deficiency.

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

OFFICIAL COPY

IE 27

8302030443 830128
PDR ADOCK 05000328
S PDR

ENCLOSURE

SEQUOYAH NUCLEAR PLANT UNIT 2
GEARED LIMIT SWITCH COVERS MELTING
THE ELECTRODYNE MOTOR-OPERATED VALVEES
SQRD50-328/81-19
10 CFR 50.55(e)
SQN NEB 8112 AND 29P
REVISED FINAL REPORT

Description of Deficiency

Geared limit switch housings in Electrodyn valve motor-operators were damaged from heat due to the placement of the resistive-type heater in the limit switch compartment. The purpose of the heaters is to prevent moisture from condensing in the compartment. The geared limit switch housings that were damaged separate the limit switch compartment from the gear train. The gears of some motor-operators showed evidence of excess heat, but none were found to be inoperable. The affected valves are located in the Component Cooling Water (CCS) and Essential Raw Cooling Water (ERCW) Systems. There are 40 Electrodyn motor operators in the unit 2 portion of the system and 17 in the portion of the systems common to units 1 and 2.

Safety Implications

Damage to the gears of the motor-operators due to excess heat could have caused a failure of the limit switch. This failure could have various effects on the motor operator, such as: giving a false position indication of the control room; giving false signals to other equipment if electrically interlocked; and if the motor operator is wired to open against the failed limit switch and was called on to open after failure, the motor operator could be damaged so as to become inoperable. Since the systems in which the valves are located, the CCS and ERCW, are safety related, the failure described above could have adverse affects on the safe operation of the plant.

Corrective Action

TVA's Division of Nuclear Power personnel at Sequoyah Nuclear Plant have removed the heaters and inspected the limit switch assemblies for damage on all of the motor operators. All of the limit switches found to be damaged have been replaced.

During the qualification of equipment to the requirements of NUREG-0588, it was determined that the Electrodyn motor operators would not meet the environmental qualification requirements. Since the motor operators are to be replaced in order to meet the requirements of NUREG-0588, TVA does not feel it would be beneficial to replace the heaters. TVA expects to complete the replacement of the motor operators on a schedule consistent with the guidelines being developed for the final rule on equipment qualification.