

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

July 18, 1980

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 NUCLEAR PLANT - REPORTABLE DEFICIENCY - HEATERS OMITTED FROM
MOTOR OPERATOR

Initial notification of the subject deficiency was made to NRC-OIE,
Inspector R. W. Wright, on June 18, 1980. In compliance with
paragraph 50.55(e) of 10 CFR Part 50, enclosed is the final report
of the subject deficiency. If you have any questions, please call
Jim Domer at FTS 357-2014.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
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ENCLOSURE
HARTSVILLE NUCLEAR PLANT UNIT A-1
HEATERS OMITTED FROM MOTOR OPERATOR
10CFR50.55(e)
NCR HNP A-097
REPORT NO. 1 (FINAL)

On June 18, 1980, TVA informed NRC-OIE Region II Inspector R. W. Wright of a potentially reportable condition under 10CFR50.55(e) regarding the omission of a heater from a motor operator manufactured by Reliance Electric Company, Cleveland, Ohio. This is the final report on this deficiency.

Description of Deficiency

The reactor core isolation cooling (RCIC) turbine steam inlet valve (Limiterque) utilizes a dc motor operator manufactured by Reliance. This equipment was supplied by Terry Steam Turbine Company, Windsor, Connecticut. The motor specification requires that a permanent heater be installed. The purpose of the heater is to prevent condensation from forming inside the motor. As a part of preventive maintenance, the heaters were to be energized while the motors were in storage to prevent the motor from being damaged by water. However, one heater failed to energize. As a result, the motor was disassembled and it was discovered that the motor had no heating element installed.

This type of motor is utilized on one RCIC turbine steam inlet valve per unit (total of four). The deficient motor was assigned to unit A1. The other three motors have been examined and it has been verified that the heaters were properly installed in the remaining components.

Two similar units are at Phipps Bend Nuclear Plant (one per unit). These will be examined to verify that the appropriate heaters have been installed.

Safety Implications

The RCIC turbine steam inlet valve is normally closed and is opened only when the reactor is isolated from the main condensers. When the valve is open, steam is routed to the RCIC turbine which is used to drive the RCIC pump in order to provide sufficient water for core cooling during shutdown. If water were to form inside the motor in sufficient quantities to cause a short circuit upon energizing the motor, the valve would be rendered inoperable. Therefore, the RCIC system would be disabled. During plant shutdown (with reactor isolated) or a rod drop accident, this situation would lead to insufficient water in the core and initiation of Emergency Core Cooling Systems (ECCS). The RCIC is not an essential requirement for safe shutdown of the plant. However, since RCIC is the preferred mode of cooling, its loss reduces the plant's safety margin and could lead to an abnormal plant condition which might affect plant safety.

Corrective Action

The deficient motor will be replaced. TVA anticipates that the motor will be replaced by November 30, 1980.

GE, who is responsible for administration of the contract for the purchase of the subject equipment, will review the vendor QA program to provide assurance that it is being properly implemented.