TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

June 5, 1981

SQRD-50-328/81-16

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:

SEQUOYAH NUCLEAR PLANT UNIT 2 - LIMIT SWITCH ACTUATOR FOR MASONEILAN AIR-OPERATED VALVES - SQRD-50-328/81-16 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. W. Wright on January 20, 198 in accordance with 10 CFR 50.55(e) as NCR SQN NEB 8103. Our interim reports were submitted on February 19 and April 27, 1981. Enclosed is our final report. This report makes clarifications to both the description of deficiency and the size valves affected. The submittal date of this report was discussed with R. V. Crlenjak on June 1, 1981.

If you have any questions, 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, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE
SEQUOYAH NUCLEAR PLANT UNIT 2
LIMIT SWITCH ACTUATOR FOR MASONEILAN AIR-OPERATED VALVES
SQRD-50-328/81-16
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

During the performance of a preoperational test on Sequoyah unit 2, it was discovered that the valve stem on some of the Masoneilan air-operated valves supplied by Westinghouse rotate. This rotation in some cases resulted in the loss of valve position indication due to the actuator missing the valve position switches. This rotation appears to be a generic condition for Masoneilan air-operated isolation valves.

Safety Implications

This condition could result in an operator being supplied with insufficient information on the main control panel, thus resulting in the operator taking inappropriate action during normal operations or during an accident. The inappropriate actions could jeopardize the safe operation of the plant.

Additional evaluation of this condition has revealed that, although the stem rotation could result in the loss of position indication, it would not adversely affect the control logic of the valves. This loss of indication would not be considered a safety problem since those valves performing safety-related functions have sufficient redundant features to determine the position of the valves.

Corrective Actions

Additional information provided by Masoneilan and Westinghouse has resulted in TVA reconsidering the applicability of this deficiency to certain larger valves as well as 3/4" and 1" valves. Westinghouse and Masoneilan investigated the deficiency onsite and determined that the actuator arm rotation is caused by stem rotation. This stem rotation results from shrinkage of the diaphragm and subsequent loosening of the stem nut. Westinghouse has recommended that TVA tighten the stem nuts on affected valves. TVA will inspect those Masoneilan valves which perform a safety function for stem rotation. If required, TVA will tighten nuts or replace the diaphragms.

In addition, valves which are required for normal operations are checked periodically for position indication under existing surveillance instructions, and any loss of indication would be detected during this check.

Any work required on affected valves will be completed before initial criticality.