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OCT 26 1987

WBRD-50-390/87-18
WBRD-50-391/87-21

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - LIMITORQUE MOTOR ACTUATOR COMPONENT INTERCHANGEABILITY - WBRD-50-390/87-18 AND WBRD-50-391/87-21 - INTERIM REPORT

The subject deficiency was initially reported to NRC Region II Inspector Gordon Hunegs on September 24, 1987, in accordance with 10 CFR 50.55(e) as CAQR WBP 870833 and WBP 870900. Enclosed is our interim report. We expect to submit our final report on or about May 30, 1988.

If there are any questions, please telephone R. D. Schulz at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

OCT 26 1987

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
LIMITORQUE MOTOR ACTUATOR INTERCHANGEABILITY PROBLEM
WBRD-50-390/87-18 AND WBRD-50-391/87-21
CAQRs WBP 870833 AND WBP 870900
10 CFR 50.55(e)

INTERIM REPORT

Description of Deficiency

During review of several conditions adverse to quality, a generic deficiency with Limitorque valve actuators was identified. For any given actuator size, Limitorque motor actuators are designed with up to 19 parts that can be unique. This uniqueness is dependent upon the application of the valve to which the actuator is attached. That is, one Limitorque SMB-000 actuator is not necessarily interchangeable with another Limitorque SMB-000 actuator even though the actuators may both be attached to the same size and same type valve. This information was not transmitted to the personnel involved with the system design, installation, and maintenance of the actuator/valve combination. Additionally, insufficient detail was given in the maintenance manuals and construction instructions to properly reassemble any actuator requiring repair. These conditions allowed Limitorque motor actuators to be moved from one valve to another, parts to be removed from one actuator and placed in another, improper parts to be placed in an actuator, improper torque switch settings to be specified or applied, and inadequate inspection to verify the correct installation of any parts or actuators being reassembled. The lack of understanding of the Limitorque motor actuator's uniqueness also led to inadequate design review of the above activities and failure to update the appropriate design documents affected. The extent of the deficiency is assumed to include all Limitorque motor actuators at the WBN.

Safety Implications

It is indeterminate to define the functionability of the affected actuators as a result of the described condition. The described deficiency may allow the Limitorque motor actuator to function, to function but not fully complete its operation, or to function and over-torque the valve which would compromise future valve operation. This uncertainty in the Limitorque motor actuator installation could therefore have jeopardized the safe operation of the plant had it remained uncorrected.

Interim Progress

Inspection of all safety-related Limitorque motor actuators will be performed to ensure that their internal parts are correctly installed. Valve manufacturer information will be obtained to determine the thrust requirements of the actuator under system design conditions. A motor-operated valve analysis and test system (MOVATS) test will be performed for each Limitorque motor actuated gate and globe valve to ascertain that each operator will achieve this required thrust value without exceeding the maximum thrust for that particular valve. The actuator's torque switch settings will be set

based upon this testing. This testing is not applicable for butterfly and ball valves actuators, since these valves utilize limit switches for positioning. Discrepancies with existing design documents will be resolved based on the above. Actuators being inspected will be under the control of mechanical maintenance personnel trained in Limitorque actuators to preclude further improper parts or actuator replacement. Design information will be assembled to identify the uniqueness of each Limitorque motor actuator and the thrust requirements of each associated valve. The need for revised procedures and instructions or drawings will then be evaluated.

The final report for this problem will be provided to the Nuclear Regulatory Commission on or about May 30, 1988.