



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION REPORT BY THE OFFICE OF SPECIAL PROJECTS

EMPLOYEE CONCERN ELEMENT REPORT EN 23704

"BYPASS OF OVER-TORQUE SWITCHES

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1.0 SUBJECT

Category: Engineering (20000)
Subcategory:
Element: Bypass of Over-torque Switch (23704)

TVA Element Report EN 23704, Revision 2, dated January 26, 1987, was issued to address the generic implications of the Watts Bar (WBN) employee concerns.

Employee concerns:

The following concerns related to bypass of over-torque switches:

XX-85-020-001 I-85-612-SQN

2.0 SUMMARY OF ISSUES

Installation of torque switch bypasses for safety injection system (SIS) valve numbers 332 and 333, required by 1979 Engineering Change Notice (ECN) 2257 was not completed.

3.0 EVALUATION

IE Bulletin No. 85-03, "Motor-Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings," dated November 15, 1985 require that licensees develop and implement a program to ensure that torque switch settings on certain safety-related motor operated valves (MOVs) are selected, set and maintained correctly to accommodate the maximum differential pressure expected on these valves during both normal and abnormal events. IE Circular 81-31, "Torque Switch Electrical Bypass Circuit for Safeguard Service Valve Motors" of September 25, 1981 provides guidance for installing bypasses on torque switches.

In order to conform with the above requirements TVA elected to bypass the torque switches of SQN and WBN active valves except where the valves need to be protected from potential valve damage. These latter MOV's would have their torque switches bypassed for all but the last few percent of travel to the full closed position. As a result of employee concerns at WBN, TVA re-evaluated the bypassing of torque switches and determined that:

- ° The design basis does not support bypassing the MOV's torque switches.
- ° No explicit requirement existed to keep the active valve list at SQN updated.
- ° MOV's added to the WBN active valve list were not added to the SQN list and this resulted in SIS MOVs 332 and 333 (at SQN) not having their torque switches bypassed.
- ° Standard drawings did not provide clear criteria for selecting torque and limit switch configurations.

A further review by TVA, in mid-1986 identified 48 additional MOV's torque switches that should have been bypassed.

TVA's corrective action plan included the following:

- ° Issuance of criteria for MOV torque switch bypass design.
- ° Preparation of an up-to-date active valve list including justifications for not listing passive valves.
- ° Revision of FSAR to clarify the design basis for MOV torque switches.
- ° Revision of standard drawings for MOV's to clarify and define design.
- ° Drawing review on all active valves to verify compliance with MOV torque switch bypass design.

4.0 CONCLUSION

The NRC staff concludes that the licensee's investigation of the employee concerns was adequate and the resolution described in Element Report EN 23704-SQN, Revision 2, is acceptable.