



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

SAFETY EVALUATION REPORT BY THE OFFICE OF SPECIAL PROJECTS

EMPLOYEE CONCERN ELEMENT REPORT 22908

"CHILLED WATER SYSTEM LEVEL SWITCHES"

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1.0 SUBJECT

Category: Engineering (20,000)
Subcategory: Instrumentation and Control Design (22900)
Element: Chilled Water System Level Switches (22908)
Employee Concern: IN-85-772-006

Element Report 22908, Revision 1, dated December 18, 1986, involves a Watts Bar employee concern stating, "There is one flow switch that indicates tank water level and adds water to tank. Operations has to work the switch manually to fill the tank. This is inefficient."

2.0 SUMMARY OF ISSUE

This concern involves the demineralized water makeup to the chilled water system supporting several air conditioning systems. It was stated that the level control switches for the chilled water system expansion tanks do not provide a suitable means for automatic refilling of the tanks and plant operations had to manually control the switch at Watts Bar to accomplish filling of the tanks. The Watts Bar issue was one of efficiency rather than the level switch design being unworkable or unsafe. The applicable Sequoyah level switches were identified as LS-305, LS-340, and LS-626, and are used to automatically maintain water level in the tank within 1.25 inch hysteresis band. Manual control is not required for the Sequoyah applications. The TVA employee concern special program (ECSP) report determined that use of separate high and low level switches could lead to an undesirable overpressurization of the chilled water system.

3.0 EVALUATION

NRC and its consultant, SAIC, reviewed the employee concern and the TVA findings. The TVA ECSP report determined that the manual control concern at Watts Bar was not applicable to the automatic expansion tank makeup control system at Sequoyah, and that implementation of a wider hysteresis switch or separate high and low level switches could present operational problems for the

chilled water system. No operational problems had been reported with the Sequoyah system, and it was determined to be a satisfactory design. This concern was found to be not relevant for Sequoyah.

4.0 CONCLUSION

Based on our review, we have concluded that the concern expressed with manual control of the level makeup at Watts Bar is not applicable to Sequoyah design. We also agree with the ECSP report conclusion that no corrective action is needed to increase the operating band of the system. Hence, this concern is considered to be satisfactorily resolved for Sequoyah.