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

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2

SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERN

ELEMENT REPORT 204.9, "USE OF REVERSE PRINTS"

I. SUBJECT

Category: Engineering (EN)
Subcategory: (OOP)
Element: Use of Reverse Prints

The basis for Element Report 204.9, dated December 24, 1986 is Employee Concern IN-85-397-001 which states:

> "Unit 1 prints are being used for unit 2 and are marked 'opposite hand' which makes work more confusing for workers and engineers."

This concern was evaluated by TVA as potentially nuclear safety-related and potentially applicable to Sequoyah (generic).

II. SUMMARY OF ISSUE

The issue defined by TVA is the confusion caused by trying to use original plant drawings for an "opposite hand" application in engineering and construction, including design modifications.

III. EVALUATION

TVA personnel determined that this practice caused considerable confusion at Watts Bar Nuclear Plant. Construction workers and engineers had to spend a considerable amount of time using light boxes and sunlight through window panes to make tracings on the back of the drawings to get the "proper hand" configuration.

Making tracings in this manner may result in incorrect schematics and result in the omission of engineering notes. These tracings did not seem to have been checked or subject to design control procedures. In addition, reversing the drawings is not always correct. If the external electric or water lines cross the design boundaries at different locations for Units 1 and 2, then "opposite hand" may cause relays and valves to be installed backwards.

TVA states that there were checks and balances, such as inspection and testing, and design control procedures in place to ensure that necessary safety aspects were evaluated and corrected as required. If discrepancies had occured, TVA expects that the Design Baseline and Verification Program (DBVP) would identify any anomalies for safety-related systems.

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Both Sequoyah Nuclear Plant, Units 1 and 2 have in excess of one year's commercial operation and most descrepancies of this type should have been detected through surveillance and testing.

IV. CONCLUSION

The NRC staff believes that the TVA investigation of the concern was adequate, and their resolution of the concern as described in TVA Employee Concerns Special Program Report Number 204.0(B) Revision 1, dated December 24, 1986, entitled "Organization or Operating Procedures (Engineering)", paragraph 3.9 is acceptable. TVA has admitted using Unit 1 prints marked "opposite hand" on Unit 2, but inspection, testing and design control procedures should identify these descrepancies prior to operation. Further, the NRC and TVA engineering quality assurance (QA) have monitored the implementation of the DBVP. In addition, a comprehensive start-up program is being performed by TVA and audited by NRC and TVA QA. The corrective actions stated are deemed sufficient to identify and correct any problems that may have occurred as a result of this concern.

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