



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

SAFETY EVALUATION REPORT BY THE OFFICE OF SPECIAL PROJECTS

EMPLOYEE CONCERN ELEMENT REPORT 220.1(B)

"A SERIES DRAWINGS AND 050 NOTES"

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

I. SUBJECT

Category: Engineering (20000)
Subcategory: Support Design General (22000)
Element: "A" Series Drawings and "050" Notes (22001)

The basis for Element Report 220.1(B) Revision 1, dated January 8, 1987 is Employee Concern IN-85-024-001 which states:

"A series hanger drawings and 050 notes are contradictory and allow hangers or box anchors or structural features to be acceptable, even when they do not conform to the requirements of drawing details. The 050 series notes are misinterpreted by all those who utilize them."

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

II. SUMMARY OF ISSUES

Three issues were defined by the licensee as applicable to this evaluation:

1. 47A050 notes are contradictory to "A" series hanger drawings. They allow hangers, box anchors, and structural shapes to be accepted even though they do not conform to the design requirements.
2. 47A050 notes are written in such a way that they can be misinterpreted.
3. There are discrepancies between 47A050 notes and other installation documents.

III. EVALUATION

The licensee's evaluation team reviewed the employee concern in the latter part of 1986 and concluded that there were not any conflicts between the "A" series hanger drawings and the 47A050 notes. The notes were found to be concise, clear and easy to interpret.

However, the Nuclear Safety Review Staff report (I-85-110-WBN-01) on the same concern in 1985 resulted in numerous findings. There were 74 pages of drawing notes and the Office of Engineering personnel were making about five changes per week. Several contradictory notes were found and the conclusion was that the notes caused considerable confusion and multiple interpretations. In addition, Finding QP.3-1 of the Institute of Nuclear Power Operations evaluation of Watts Bar construction specifically mentioned the 47A050 notes as being a contributing factor in the high rejection rate. Since both Sequoyah and Watts Bar drawing notes were written by the same engineering office at about the same time, the employee concern is substantiated.

Since the INPO finding and other employee concerns such as those found in Element Reports 215.9(B) and 222.5(B), the licensee performed a general review and improvement of the drawing notes. Most of these revisions took place in the first half of 1986. The NRC staff reviewed the present drawing notes for Sequoyah and found the notes to be clear and non-contradictory. Several notes contain engineering decisions that should be discussed in the future, but these notes are also clear and understandable.

The staff also reviewed several Watts Bar drawings. It is not known if these drawings have been updated.

47A050-1N Revision 9, dated September 10, 1985, "Seismic Category I Structures, Mechanical Hanger Drawing Notes" Note 51 - "Where the weld symbol for a specific weld is not applicable to the actual configuration, the appropriate type of weld of the same size is authorized."

47A050-1N Revision 9, dated September 18, 1985, "Seismic Category I Structures, Mechanical Hanger Drawing Notes" Note 81 - "Lugs shown fastened to pipe by flare bevel welds shall be attached with full penetration welds on all category supports."

47A050-1N2 Revision 4, dated March 31, 1986 "Seismic Category I Structures, Mechanical Hanger Drawing General Notes" Note 130 - "When improper welds are specified..."

Note 51 essentially requires the inspector to look at the weld and make an engineering judgment as to the type of weld required. Note 81 is not physically possible in all configurations. Note 130 also requires an engineering judgment. These type of notes were not found on Sequoyah drawings.

IV. CONCLUSION

The Element Report did not thoroughly evaluate the employee concern. The NRC staff reviewed the concern and the corrective action for the Sequoyah Nuclear Plant is acceptable. The employee concern is substantiated.