



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 222.3(B), "DRAWINGS DO NOT ALWAYS SHOW WELD SIZE"

I. SUBJECT

Category: Engineering (20000)
Subcategory: Pipe Support Weld Design (22200)
Element: Drawings Do Not Always Show Weld Size (22203)

The basis for Element Report 222.3(B), Revision 1, dated December 31, 1986 is Employee Concerns EX-85-061-004 and OE-QMS-8 which state:

EX-85-061-004:

"Drawings do not always show complete details, i.e. specific weld size.
Construction concern. CI has an additional detail."

OE-QMS-8:

"Two areas regarding design methods for pipe supports are not receiving proper consideration: effect of baseplate flexibility on anchor loads; and detailing methods for welds."

These concerns were evaluated by TVA as potentially nuclear safety-related and potentially applicable to Sequoyah (generic).

II. SUMMARY OF ISSUES

The issues defined by TVA are that pipe support drawings do not always show all details, particularly weld sizes and welds are not detailed properly on pipe support drawings. The effect of base plate flexibility on anchor bolt design is discussed in construction subcategory 10400.

III. EVALUATION

TVA personnel determined that the concerns about incomplete details and welds not being detailed properly on pipe support drawings are valid. However, an inspection of 34 supports selected by random sampling, showed that the installations were adequate for their intended applications and that there are not any safety implications resulting from these concerns. Sequoyah Nuclear Plant has committed to a program plan for converting to configuration control drawings to correct the problem of incomplete details on design drawings.

To evaluate the validity of the concerns, 34 pipe support drawings were selected for review. These supports were randomly selected from eleven different single phase and two phase systems and consideration was given to including different support designs such as rigid frames and snubbers. Each support drawing was examined for weld symbols, bill of materials, dimensional information, clarity, reference notes, and detailing methods.

TVA found 16 support drawings to be complete in every major aspect. The other 18 support drawings had a total of 27 discrepancies which verified the employee concerns:

weld size missing	5
weld not specified	6
weld detail incorrect or unclear	6
drawing detail incorrect or missing	10

Sequoyah performed a physical examination of four of the supports where the weld was not specified or the weld size was missing. In all cases a weld was found and TVA verified their adequacy by calculation.

In Phase II of the welding review program, TVA inspected welds on 50 structures at Sequoyah, and 16% of the pipe support component welds were found to have deficiencies such as drawings not specifying welds, weld size not specified, and welds not found on structure. These deficiencies were evaluated by TVA and accepted as adequate for the design loads. In another inspection performed by NRC of 32 pipe supports (50-327/328/86-33), it was observed that some welds were not shown on drawings and in other instances, the welding information shown on the drawings was inadequate or incorrect. The welds in question were inspected by TVA and determined to be adequate for their application.

Sequoyah concluded that there was inadequate control of the processing of field change requests and the reporting of configuration deviations. In addition, a systematic overall configuration control program was not in place. As a result of the above report, Sequoyah committed to a program plan to convert to configuration control drawings to correct the problem of incomplete details on design drawings. Sequoyah also committed to reconciling the 'as-designed' and 'as-constructed' drawings so that there will be a single set of plant drawings.

IV. CONCLUSION

The NRC staff believes that the TVA investigation of the concerns was adequate, and their resolution of the concerns as described in Element Report 222.3(B), Revision 1 is acceptable. TVA has admitted that the concerns are valid in that the Sequoyah pipe support drawings do not always specify welds or show weld size, but physical examination of

supports and subsequent calculations have shown in all cases that the welds are adequate for the application. In addition TVA has committed to a program concerning the control of drawing change requests and the reporting of configuration deviations. Further implementation of TVA commitments involving welding information for supports will be monitored by the NRC through inspections and audits.

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