



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

SAFETY EVALUATION REPORT BY THE OFFICE OF SPECIAL PROJECTS

EMPLOYEE CONCERN ELEMENT REPORT 19101

"GALVANIZED STEEL JUNCTION BOXES"

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

I. SUBJECT

Category: Construction (10,000)
Subcategory: Electrical Equipment (19,100)
Element: Galvanized Steel Junction Boxes (19,101)
Employee Concern: IN-85-913-001

The basis for Element Report CO 19101-SON, Revision 3, dated March 16, 1987 is Watts Bar Employee Concern IN-85-913-001 which states:

"Electrical Junction Boxes are not per G-40 and electrical standard drawings, in that they are manufactured of galvanized steel instead of sheet steel with paint on both sides. These junction boxes may be found throughout the plant especially in the ADGB (Auxiliary Diesel Generator Building). CI had no further information. No followup required."

This concern was evaluated by TVA to be potentially nuclear safety-related and potentially applicable to the Sequoyah Nuclear Plant (generic).

II. SUMMARY OF ISSUES

The problem as defined by TVA is that galvanized steel junction boxes were thought to be unacceptable since TVA procedures did not specifically allow their use. These galvanized junction boxes could be found throughout the plant.

III. EVALUATION

The TVA Employee Concern Task Group (ECTG) evaluators reviewed various documents, including Watts Bar ECTG Element Report CO 19101 and Modification and Addition Instruction (M&AI)-6, "Installation of Conduit and Junction Boxes." This review revealed that the procedures and instructions state that materials used in the installation of electrical conduit systems and boxes must meet the requirements of an approved recognized standard but do not specifically list galvanized steel as an accepted material for junction boxes.

TVA evaluators also interviewed a Modification and Addition Engineer who indicated that junction boxes were either specified and procured by Division of Nuclear Engineering (DNE), or fabricated onsite utilizing a Standard Drawing SD-E13.6.3-1, Revision 5, which specifically lists sheet metal and painting as the material used for junction boxes.

TVA evaluators concluded that procedure M&AI-6, Revision 6 is adequate as written and is consistent with Article 370-20 of the National Electric Code, and therefore, no corrective action is necessary.

However, the staff was concerned regarding the accountability of galvanized steel material in the post-LOCA hydrogen generation calculation. TVA, in their letter of January 14, 1988 have stated that a physical walkdown was conducted to account for all galvanized steel or zinc material. All rework performed after the walkdown is controlled by design change documents which are reviewed to ensure that any change in the amount of galvanized or zinc material used in the containment building is noted for consideration in recalculation of hydrogen generation.

IV. CONCLUSION

The NRC inspectors reviewed the Element Report and its associated ECTG file, discussed the issue with the ECTG evaluator and Sequoyah personnel, and reviewed related documents and drawings. The NRC staff concludes that TVA's investigation and evaluation of the concern as described in CO 19101-SON, Revision 3, are adequate. No further action by the NRC is required.