

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

September 18, 1981

SQSD-50-328/81-30

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

SEQUOYAH NUCLEAR PLANT UNIT 2 - FOAM SEALS IN MECHANICAL PIPE SLEEVES -
SQSD-50-328/81-30 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on April 16, 1981, in accordance with 10 CFR 50.55(e) as NCR CEB 8108. Interim reports were submitted on April 23 and June 30, 1981. Enclosed is our third interim report. We expect to submit our next report by November 19, 1981.

If you have any questions, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

SEQUOYAH NUCLEAR PLANT UNIT 2
FOAM SEALS IN MECHANICAL PIPE SLEEVES
SQRD-50-328/81-30
10 CFR 50.55(e)
THIRD INTERIM REPORT

Description of Deficiency

Some wall penetration piping sleeves shown on TVA drawing series 47W470 and 47W471 have rigorously analyzed safety-related piping routed through them. Silicone sealants are provided between the pipe and sleeve at certain locations as shown on TVA drawing series 47W472. These seals have not been considered by the piping analyst for most cases and thereby could result in increases in pipe stresses and support loads for some situations. The maximum pipe movements at the sleeves may cause failure of the sealant to perform its intended design function as a pressure, water, radiation, and/or fire protection seal.

Interim Progress

TVA has conducted tests which show that the silicone foam is flexible in tension, compression, and shear. Test results and vendor physical data indicate the silicone foam will not tear or rupture for anticipated pipe movements. In cases where the pipe is not centered, the movement of the pipe could tear the seal locally; however, a complete loss of a seal through a penetration is not likely.

TVA is currently evaluating the effects of the silicone foam seals on the pipe and on the seal itself. Pipe movement data has been compiled for the evaluation.

From the test, conducted by TVA, on silicone foam seal, spring rates for the foam seal in tension, compression, and shear have been established for use in the analysis to represent the resistance offered by the seal in the sleeve for pipe movements.

Six analysis problems have been selected that have seals that penetrate the shield building at critical elevations and have large pipe movements at the sleeve. Thus far analysis on three problems has been completed, and the results indicate no significant increase in the pipe stresses or support loads. Analysis on the remaining three problems is in progress.