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APR 15 1988

WBRD-50-390/86-19 10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of	)	Docket Nos. 50-390
Tennessee Valley Authority	)	50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 - INVALID COLD FORMING PROCEDURES USED TO BEND PROCESS PIPE - WBRD-50-390/86-19 - FINAL REPORT

The subject deficiency was initially reported to NRC Region II Inspector Al Ignatonis on January 6, 1986, in accordance with 10 CFR 50.55(e) as NCRs WBN 6524 and WBN 6518 for units 1 and 2, respectively. Interim reports were submitted on February 7 and April 15, 1986. A final report for unit 2, NCR WBN 6518, was submitted on September 5, 1986, downgrading the item to nonreportable. Additional interim reports for the unit 1 deficiency were submitted on January 14, May 15, and October 15, 1987. Enclosed is our final report for unit 1.

If there are any questions, please telephone C. J. Riedl at (615) 365-8524.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley by RAS

R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

APR 15 1986

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ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1
INVALID COLD FORMING PROCEDURES
USED TO BEND PROCESS PIPE
WBRD 50-390/86-19
NCR WBN 6524
10 CFR 50.55(e)

FINAL REPORT

DESCRIPTION OF DEFICIENCY

Several cold forming (CF) procedures (7 total) used in performing bends on noninstrument safety-related piping for various systems at WBN have been determined to be improperly qualified. The affected CF procedures had not been properly qualified because of one or more of the following: (1) Performance of less than the required number of qualification bend samples, (2) sample bend minimum wall thickness exceeded, or (3) use of unidentified bending machines (manufacturer and model number not documented). TVA General Construction Specification G-29M, Process Specification 4.M.2.1 defines the requirements for CF procedure qualification. These deficiencies were identified as a result of a generic review for a similar deficiency on instrument line bends identified by nonconformance report (NCR) 6276. Our previous reports indicated that 13 CF procedures were considered invalid. These procedures were not invalid, but only lacked proper qualification. Through subsequent review, 6 of these were found to be qualified.

TVA has determined that this deficiency was the result of the misinterpretation of G-29M requirements by affected personnel. This resulted in some unacceptable bender qualification records being approved for use and incorporated into site procedures.

SAFETY IMPLICATIONS

Without acceptable qualification of CF procedures, there is a potential for affected pipe bends to have wall thicknesses below the minimum required and excessive pipe ovality. These conditions could result in unanticipated loading conditions or a loss of pressure integrity of the piping under design basis conditions, and could thus adversely affect safe operation of the plant.

However, TVA has performed a field examination of all pipe bends affected by the use of unqualified CF procedures. This examination consisted of obtaining wall thickness and ovality data and determining quality of the subject bends. (Note: For piping with long bend radii, data was taken from a sampling of the bend.) All data was found to be acceptable. Therefore, the deficiency did not result in conditions which adversely affected safe operation of the plant.

CORRECTIVE ACTION

No corrective action was necessary for the pipe bends. To prevent recurrence, General Construction Specification G-29M, Process Specification 4.M.2.1 has been revised to clarify the requirements for qualification of CF procedures.