TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

FEB 18 1987

WBRD-50-390/86-66
WBRD-50-391/86-60

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Dr. J. Nelson Grace

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - QUESTIONABLE WELD RADIOGRAPHS PREVIOUSLY ACCEPTED - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-Region II Inspector Gordon Hunegs on November 26, 1986, in accordance with 10 CFR 50.55(e), as SCRs WBN NEB 8651 and WBN NEB 8665. Steve Elrod was notified on January 16, 1987, that TVA considers that this deficiency represents a breakdown in the Quality Assurance Program as it relates to review of weld radiographs. Our first interim report was submitted on January 14, 1987. Enclosed is our second interim report. We expect to submit our final report on or about April 30, 1987.

If there are any questions, please get in touch with R. D. Schulz at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley, Director
Nuclear Safety and Licensing

Enclosure

IE07

U.S. Nuclear Regulatory Commission

FEB 18 1987

cc (Enclosure):
Mr. Gary G. Zech, Director
TVA Projects
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

U.S. Nuclear Regulatory Commission
Watts Bar Resident Inspector
P.O. Box 700
Spring City, Tennessee 37381

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
QUESTIONABLE WELD RADIOGRAPHS PREVIOUSLY ACCEPTED
WBRD-50-390/86-66, WBRD-50-391/86-60
SCRs WBN NEB 8651 AND WBN NEB 8665
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Deficiency

The DOE/EG&G weld reinspection program, in response to employee concerns at Watts Bar Nuclear Plant (WBN), included the review of radiographs of ASME Section III piping which were made during the construction period. Approximately 400 previously accepted radiographs, representing 86 welds, were reevaluated. The review identified indications in two welds that did not meet ASME Section III requirements. Further investigation of these 400 radiographs by TVA, which included additional radiography, identified one additional unacceptable indication. These indications were found in radiographs originally evaluated by a single inspector. These three unacceptable indications provided sufficient cause to expand the review population to 100 percent of the radiographs interpreted by this inspector. The expanded review involved approximately 8,000 radiographic exposures, which represented approximately 1,780 welds.

Approximately 170 of these welds in the expanded review have at least one radiograph having indications which may not meet ASME Section III requirements. These reviews were conducted as a result of radiograph interpretations associated with unit 1. This condition is attributed to a lack of attention to detail by the inspector when he interpreted radiographs. Also, there was insufficient management oversight and quality assurance (QA) surveillance of the work of radiographic interpreters. TVA considers that this deficiency in the interpretation of code-required radiographs on welds represents a significant breakdown in the QA program.

Some unit 2 radiographs were interpreted by the same individual under the same program. Therefore, those radiographs are considered to be suspect and are addressed on SCR WBN NEB 8665.

Safety Implications

Welds that do not meet ASME Section III requirements (due to unacceptable indications) may not be suitable for service. Postulated failure of the welds could result in a loss of pressure boundary integrity of the affected safety-related system(s) and in a failure of the safety-related system(s) to perform the required design function, creating a condition which could be adverse to the safe operation of the plant.

INTERIM PROGRESS

All of the radiographs for the remaining 1,335 welds made during the construction of WBN unit 1 which were interpreted by other inspectors have now been reviewed. There are approximately 100 of these welds which have at least one radiograph which may not meet ASME Section III requirements. Approximately 40 percent of these represent film or technique problems which may require additional radiography.

The unit 1 radiographs having indications which may not meet ASME Section III requirements are being reviewed. The indications which deviate from ASME Section III requirements are being evaluated, and corrective actions will be developed as required. The basis for any acceptance of deviations will be submitted for staff review and approval.

To prevent recurrence of this deficiency, 100 percent of the radiographs for all new ASME Section III piping welds will be evaluated by both a level II and a level III inspector. The affected site procedures have been strengthened by including lessons learned for documenting all indications and requiring the level II and level III inspection reviews. Training has been scheduled for quality control (QC) radiographic interpreters to encompass the lessons learned.

Further root cause investigation is underway, and identified causes will be evaluated to ensure that proper corrective actions are taken and that the scope of the problem is identified.

TVA will provide further information to NRC for unit 1 on or about April 30, 1987. A schedule for providing additional information on unit 2 will be provided at that time.