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TENNESSEE VALLEY AUTHORITY

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May 2, 1986

WBRD-50-390/85-64
WBRD-50-391/85-60

U.S. Nuclear Regulatory Commission
Region II
Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - FAILURE TO IMPLEMENT DESIGN INSTRUCTIONS - WBRD-50-390/85-60, WBRD-50-391/85-60 - FINAL REPORT

The subject deficiency was initially reported to NRC-Region II Inspector Al Ignatonis on November 15, 1985 in accordance with 10 CFR 50.55(e) as NCR W-291-P. Interim reports were submitted on December 30, 1985 and March 24, 1986. Enclosed is our final report.

If there are any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. L. Gridley, Director
Nuclear Safety and Licensing

Enclosure
cc: Mr. James Taylor, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center (Enclosure)
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
FAILURE TO IMPLEMENT DESIGN INSTRUCTIONS
WBRD-50-390/85-64, WBRD-50-391/85-60
NCR W-291-P
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

During field inspection by TVA personnel, eight valves were identified as not being environmentally sealed at the interface points where conduit connects with the valves. The valves are 1-FCV-63-39A, 1-FCV-63-40B, 1-FCV-63-152A, 1-FCV-26-241B, 1-FCV-26-242A, 2-FCV-67-146A, 1-FSV-70-85-B, and 1-FSV-77-128A. These valves are installed in the Safety Injection, High Pressure Fire Protection, ERCW, Component Cooling, and Waste Disposal systems. The sealing of the valve-conduit interface was called out in the notes of TVA drawings 45N824-4 and 45W826-10, and TVA has determined that the seven unit 1 valves were sealed, inspected, and documented as such before the release of the valves for operations. The remaining device, 2-FCV-67-146A, is a unit 2 valve and while sealing activities for unit 2 devices have not been performed at this time the valve was transferred for operations before original issuance of the sealing instructions involved with this deficiency.

TVA has determined that the the cause for this deficiency lies in failure to adequately control rework, in the failure to consistently identify requirements from drawing notes, and in the failure to perform and document configuration at the time of equipment transfer.

Safety Implications

These devices are required to be sealed in order to protect them from water spray in the event of a noncritical pipe rupture and subsequent possible electrical shorts which could disable the devices. Failure of one or more of these devices could interfere with the respective safety-related system's ability to perform its designed safety function during an accident.

Corrective Action

Prior to this NCR, the applicability of sealing requirements was determined by field system engineers who reviewed individual devices against the requirements of drawings 45N824-4 and 45W826-10. TVA has now identified all equipment for unit 1 which must be environmentally sealed. A reinspection of the 540 device interface points identified indicated that 164 of the interface points were not sealed. These interface points have been sealed through workplan W-291-P-1.

All required devices for unit 1 operation are now sealed. Unit 2 devices will be sealed using specified procedures at the time the activity occurs in the unit's construction schedule.

To prevent recurrence, the program for work control has been completely restructured and procedures for work control have been combined to ensure better control of work. Watts Bar Nuclear Plant (WBN) Quality Control Instruction (QCI) WBN-QCI-1.60, "Work Control," was issued March 28, 1986. This instruction provides enhanced controls over the specification of work activities and now requires exact specification of acceptance criteria.

Affected personnel in the site's various organizations which could perform sealing activities have been trained in the requirements for the sealing of junction boxes, conduit, and equipment interfaces.

With regard to unit 2, TVA has determined that water entry sealing has not begun but the training given on the sealing of equipment in accordance with the notes of the referenced drawings will help to prevent an occurrence of the condition for unit 2 also.