



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

AUG 21 1995

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 )

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - CLOSURE CERTIFICATION FOR  
OFFICE OF INSPECTIONS AND ENFORCEMENTS (OIE) BULLETINS 79-02 AND  
79-14

The purpose of this letter is to notify the staff of the completion  
of required activities for the implementation of OIE Bulletins  
79-02 and 79-14 at Watts Bar Unit 1.

Necessary actions included evaluations to the requirements of 79-02  
and 79-14 and the performance of modifications to the physical  
plant, as required, to assure compliance. These activities were  
performed as an attribute of Watts Bar Corrective Action Program  
(CAP) for large and small bore piping, the Hanger and Analysis  
Update Program (HAAUP).

Enclosed is a summary of the individual bulletin requirements and  
actions taken for resolution. If you should have any questions,  
contact P. L. Pace at (615) 365-1824.

Sincerely,

R. R. Baron  
Nuclear Assurance  
and Licensing Manager (Acting)

Enclosure  
cc: See page 2

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cc (Enclosure):

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## ENCLOSURE

### OIE BULLETIN 79-02 REQUIREMENTS AND RESOLUTION

IE Bulletin 79-02 includes six requirements for holders of construction permits.

#### Requirement 1

Verify that pipe support base plate flexibility was accounted for in the calculation of anchor bolt loads.

#### Resolution to Requirement 1

WBN's approach to considering baseplate flexibility in the design of concrete expansion anchors is defined in Design Specification DS-C1.7.1. TVA's response to this requirement was provided in Section 2 of CEB 84-08, R1 (Reference 1) and the supplement to CEB 84-08 (Reference 2).

#### Requirement 2

Verify the factors of safety for wedge-type anchors and shell-type anchors are 4 and 5 respectively.

#### Resolution to Requirement 2

As stated in Section 5.2 of the supplement to CEB 84-08 (Reference 2), HAAUP reanalysis of pipe supports was performed using DS-C1.7.1 which implements the IEB 79-02 factor of safety requirements.

Additionally, Section 5.3 of the supplement to CEB 84-08 (Reference 2) states that the sample program described in Section 4.0 of CEB 84-08 is no longer the basis for the adequacy of the pipe support installations. The WBN Unit 1 HAAUP evaluates the total scope of Category I pipe supports.

#### Requirement 3

Describe the design requirements if applicable, for anchor bolts to withstand cyclic loads.

#### Resolution to Requirement 3

In order to address this issue, TVA performed a testing program in 1979. This is described in Section 5 of CEB 84-08, R1 (Reference 1).

#### Requirement 4

Verify that concrete expansion anchors have been correctly installed.



#### Resolution to Requirement 4

The performance of a special inspection program on a random sample of anchor bolt installations to address this requirement is described in Section 5 of CEB 84-08, R1 (Reference 1).

#### Requirement 5

Determine the extent that pipe supports with expansion anchor bolts were used in concrete block walls to attach Category I pipe supports.

#### Resolution to Requirement 5

Section 1.0 of CEB 84-08, R1 (Reference 1) states that this issue was addressed in TVA's response dated December 6, 1979 (Reference 3). Additionally, the issue of possible unauthorized attachments to concrete block walls has been addressed in WBN's resolution to IE Bulletin 80-11.

#### Requirement 6

Determine the extent that pipe supports with expansion anchor bolts used structural steel shapes instead of base plates.

#### Resolution of Requirement 6

TVA's response dated December 6, 1979 (Reference 3), states that this issue is not applicable to WBN because TVA's inspection and testing program does not differentiate between expansion anchors used in base plates and expansion anchors which attach structural members directly to concrete. Additionally, the WBN Unit 1 HAAUP reevaluated the as-built condition of all Category I pipe supports to the requirements of IEB 79-02 regardless of method of attachment to building structures.

### **OIE BULLETIN 79-14 REQUIREMENTS AND RESOLUTIONS**

#### Requirements

IE Bulletin 79-14 requires holders of construction permits to perform the following actions for all safety-related piping 2-1/2 inches in diameter and greater, and seismic Category I piping, regardless of size, which was dynamically analyzed by computer:

- 1) For portions of systems which are normally accessible, inspect one system in each set of redundant systems and all nonredundant systems for conformance to the seismic analysis input information set forth in design documents.
- 2) Inspect all other normally accessible safety-related systems, and all normally inaccessible safety-related systems.



### Resolution

The following actions were taken in the WBN Unit 1 Hanger And Analysis Update Program:

- 1) As-built configurations of all large bore (2-1/2 inch diameter and greater) safety-related piping and all small bore (2 inch and smaller piping) that had been dynamically analyzed by computer (not supported utilizing typical support designs and alternate analysis methods) was obtained utilizing walkdown procedure WP-32.
- 2) All safety-related piping was reanalyzed, using updated design inputs, to demonstrate compliance with the updated design basis requirements, using as-built configurations obtained from field walkdowns.
- 3) Pipe supports were reevaluated for compliance with the updated design criteria requirements using support loads from the revised piping analysis.
- 4) Necessary support modifications were implemented utilizing the DCN process.

### References:

- 1) TVA submittal dated December 20, 1984 (L44 841220 813), Second Revised Response - Bulletin 79-02 - Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts
- 2) TVA submittal dated July 26, 1991 (L44 910726 803), Supplement to TVA Civil Engineering Branch Report Number 84-08 - Bulletin 79-02 - Pipe Support Baseplate Designs Using Concrete Expansion Anchors - Final Report - Revision 2
- 3) TVA submittal dated December 6, 1979 (A27 791207 001), OIE Bulletin 79-02, Revision 2 - Watts Bar Nuclear Plants, et al.