

USNRC REGION II  
ATLANTA, GEORGIA

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 8, 1982

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U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - NRC-OIE REGION II INSPECTION  
REPORT 50-390/82-29, 50-391/82-26 - RESPONSE TO DEVIATIONS

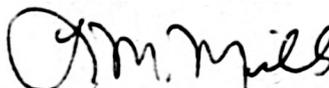
The subject inspection report dated August 27, 1982 cited TVA with two deviations. Enclosed is our response to those deviations. The submittal date of this response was discussed with Inspector Hugh Dance on September 29, 1982.

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

To the best of my knowledge, I declare the statements contained herein to be complete and true.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager  
Nuclear Licensing

Enclosure

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

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## ENCLOSURE

### WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 RESPONSE TO DEVIATIONS

#### Deviation 50-390/82-29-03, 50-391/82-26-03

The Watts Bar Fire Protection Program Evaluation of April 18, 1977, Section C identifies the quality assurance program to be applied to the design and construction of the fire protection systems at Watts Bar. TVA Drawing No. 47W832-1, Note 9 states that "all construction activities for the fire protection system shown on this drawing shall be documented in accordance with the limited QA program for fire protection." TVA Quality Control Instruction WBNP-QCI 1.39, Fire Protection QA Program, Section 2.1.1 states that the fire protection quality assurance program is applicable to mechanical fire protection system, pumps, piping, and valves.

Contrary to the above, the exterior TVA Class H fire protection water system shown on Drawing 47W832-1 was not installed or tested under a quality assurance program.

#### TVA Response

We acknowledge that construction activities for the exterior piping system shown on drawing 47W832-1 have not been adequately documented per our commitments. However, we feel the drawing in question overstates the extent to which the quality assurance program applies to this piping. It is our position that the program applies only to those features that may affect fire protection for safety-related areas of the plant. Thus, only those headers supplying water directly from the fire pumps located in the intake pumping station to the safety-related structures should fall under the quality assurance program.

Recent reviews of our construction quality assurance program at Watts Bar indicate that a similar lack of documentation exists for other fire protection features. This problem has been primarily attributed to poorly defined quality assurance boundaries on design drawings as required by Section 2.2 of TVA General Construction Specification G-73, Inspection, Testing and Documentation Requirements for Fire Protection Systems and Features.

#### Corrective Actions That Have Been or Will Be Taken

1. TVA's Division of Engineering Design (EN DES) will issue an engineering procedure applying to all TVA nuclear projects that will clearly state what organizations are responsible for defining fire protection quality assurance boundaries on design drawings and will state the general criteria for establishing these boundaries.

2. EN DES will then review all Watts Bar drawings that fall under the fire protection quality assurance program for conformance to the engineering procedure. All deficiencies will be corrected through drawing revisions.
3. TVA's Division of Construction (CONST) will review all Watts Bar drawings falling under the fire Protection Quality Assurance Program and will verify that adequate quality assurance records exist in compliance with TVA General Construction Specification G-73, Inspection, Testing and Documentation Requirements for Fire Protection Systems and Features. All non-conforming items will be documented and appropriately dispositioned.

Corrective Actions Which Will Be Taken to Prevent Further Deviations

Full implementation of the proposed engineering procedure and the existing general construction specification should prevent further deviations of this nature at Watts Bar.

TVA will evaluate the adequacy of the fire protection quality assurance boundaries on design drawings for our other active nuclear plants. If problems are identified, they will be corrected in a manner similar to the actions outlined above.

Date Corrective Actions Will Be Completed

All corrective actions will be completed by July 1, 1983.

Deviation 50-390/82-29-01, 50-391/82-26-01

The Watts Bar Fire Protection Program Evaluation of April 18, 1977, Sections E.3 and F.3 state that the automatic sprinkler systems at Watts Bar will be in conformance to the requirements of National Fire Protection Association (NFPA) Standard No. 13, Automatic Sprinkler Systems. NFPA-13 Section 5-3.5.2 states that the sprinkler piping of pre-action systems containing more than 20 heads shall be automatically supervised.

Contrary to the above, the pre-action sprinkler system for the cable spreading room and 755-foot elevation of the control building contains approximately 363 heads and the piping system is not supervised.

TVA Response

All preaction sprinkler systems at Watts Bar, including the one in question, are supervised by pressure switches downstream of the system control valves. The switches provide annunciation in the Main Control Room anytime a control valve opens and water is admitted into the sprinkler systems.

The preaction sprinkler systems covering other areas of the plant containing class 1E electrical switchgear and control panels are also provided with low pressure air supervision. The systems have pressure switches that provide Main Control Room annunciation indicating when the integrity of the piping systems have been lost.

Both types of supervision are provided out of concern for release of water in safety-related areas of the plant. Supervision, coupled with normally dry headers downstream of the control valves, closed sprinkler heads, seismically designed piping, and control valve actuation by cross-zoned fire detectors, provides a high degree of assurance that water damage to safety-related equipment cannot occur because of spurious sprinkler system operation.

It is therefore TVA's position that adequate supervision of all sprinkler system piping is provided and that the current design complies with NFPA-13 Section 5-3.5.2.