

August 25, 1994

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

The staff has completed its review of the relief requests for the Watts Bar Inservice Testing Program (IST) for Pumps and Valves, as submitted by TVA letter dated March 15, 1994, and revised by letter dated July 22, 1994. The staff's review leads to approval, or interim approval, of all TVA's relief requests, except Relief Request PV-06 regarding the delay time between successive opening of safety or relief valves undergoing pressure testing. Details of the evaluation, and the associated granting of reliefs or approval of alternatives, will be conveyed in Supplement 14 of the Watts Bar Safety Evaluation Report (SSER 14), to be published in October 1994.

The rejection of Relief Request PV-06, as well as other staff comments, are conveyed in the enclosure. We request that you respond to the action items in the enclosure before startup from the first refueling outage and request a letter from TVA committing to this schedule. Meanwhile, you should proceed to implement your IST program as submitted, taking into account the staff's comments in the enclosure, where appropriate.

This requirement affects nine or fewer respondents and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

Sincerely,
Original signed by
Peter S. Tam, Senior Project Manager
Project Directorate II-4
Division of Reactor Projects II-4
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: Comments and Request for Additional Information

cc w/enclosure: See next page

Distribution w/encl:

Docket File SVarga
PUBLIC CCarpenter
WBN Reading LDudes

CJulian, RII
GLainas
PCampbell 07-E23
OGC

PFrederickson, RII
ACRS (10)
BBoger, RII
JJoudon

DOCUMENT NAME: G:\WBNRAI

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure

"E" = Copy with attachment/enclosure "N" = No copy

OFFICE	PDII-4/LA	PDII-4/PM	Y	PDII-4/D	Y			
NAME	BClayton	PTam		FHebdon				
DATE	08/25/94	08/25/94		08/25/94				

OFFICIAL RECORD COPY

9408300092 940825
PDR ADOCK 05000390
A PDR

NRC FILE CENTER COPY

DF01

NRC STAFF COMMENTS AND REQUEST FOR ADDITIONAL INFORMATION

WATTS BAR NUCLEAR PLANT

PUMPS AND VALVES INSERVICE TESTING PROGRAM

Reference: Letter, D. E. Nunn to NRC, July 22, 1994, transmitting Revision 2 of the Watts Bar IST Program

1. The IST program does not include a description of how the components were selected and how testing requirements were identified for each component. The program does not include verification that all pumps and valves within the scope of 10 CFR 50.55a and Section XI, and does not ensure that all applicable testing requirements have been identified. Therefore, the applicant is requested to include this information in the IST program. The program should describe the development process, such as a listing of the documents used, the method of determining the selection of components, the basis for the testing required, the basis for categorizing valves, and the method or process used for maintaining the program current with design modifications or other activities performed under 10 CFR 50.59.
2. Sections 3.1 and 3.2 of the IST program indicate that thermal relief valves and thermal relief check valves are not included in the program. The Operations and Maintenance (O&M) Committee has indicated that the requirements of Part 1 of the O&M Code (and previous editions of OM-1) apply to pressure relief devices required for overpressure protection. For those thermal relief valves and thermal relief check valves, the applicant should review the function. If any of these valves are required for overpressure protection, as defined by OM-1, they should be in the IST program and tested in accordance with OM-1. Also, there is no type "C-passive" identified in Table 1, "Inservice Test Requirements," of OM-10.
3. Section 3.3, "Corrective Action," of the IST program indicates that the operability requirements of the plant technical specifications are "more restrictive" than the requirements of Paragraph 4.2.1.9(b) of OM-10. Paragraph 4.2.1.9, "Corrective Action," specifies the actions for two conditions that could occur when measuring the stroke time of a valve: (1) paragraph (a) applies if a valve fails to exhibit the required change of obturator position which exceeds the limiting value of full-stroke time established per paragraph 4.2.1.4; and (2) paragraph (b) applies if a valve has a measured stroke time which exceeds a multiple of the reference value according to paragraph 4.2.1.8, and requires the valve to be retested or declared inoperable if the stroke time does not meet the acceptance criteria. Because the multiple of reference value may not be the same value as the limiting full-stroke time, a period of 96 hours is allowed to analyze the "new stroke time" to determine if it is acceptable. For valves that have the more restrictive limiting values, the 96 hours is essentially unavailable and the valve would be declared inoperable immediately. However, for valves which have some margin between the multiple value (based on reference value) and the limiting value, the valve may not be "inoperable."

ENCLOSURE

4. Section 3.4, "Emergency Diesel Systems," of the IST program states that the pumps and valves associated with the emergency diesels are excluded from the IST program, indicating that the testing performed for the emergency diesel system would identify failure of the components. While it may be acceptable to consider diesel skid-mounted components as adequately tested by the diesel test, the IST program should include diesel support systems, such as fuel oil transfer, that may not be skid-mounted, if the components are Code class. The approach may be acceptable, but additional information needs to be included in Section 3.4 to identify which component are covered and which ones may not be covered.
5. Section 3.6, "Passive Valves," of the IST program states that "passive valves have no testing requirements other than verification of the accuracy of remote position indicators for valves so equipped." In fact, Category A passive valves also have leak test requirements. For example, certain manual valves which have leak-tight criteria would be subject to IST even though the valves may be "passive."
6. Section 3.7, "Backseat Testing of Category C-Active and AC-Active Check Valves," of the IST program discusses the verification of check valves to close. The section does not indicate that certain check valves are disassembled and inspected to verify the valves are capable of closing, although OM-10 states that disassembly and inspection is an acceptable alternative to the other means listed in paragraph 4.3.2.4, "Valve Obturator Movement," and that Position 2 of GL 89-04 indicates that a sampling program of disassembly and inspection is an acceptable alternative to verify the opening or closing capability of a check valve when it is not practical to test the valves.
7. Section 3.8, "Category A Valves," of the IST program indicates that "valves for which seat leakage is important may be either pressure isolation valves (PIV) or containment isolation valves (CIV)." In fact, valves other than PIVs and CIVs may have specific leakage limits and may be Category A valves subject to IST leak testing criteria. For example, certain valves that prevent unmonitored offsite releases may have leakage limits.
8. A number of valves are being disassembled and inspected on a sampling basis in accordance with Position 2 of GL 89-04. The applicant should investigate nonintrusive test methods which may prove less burdensome to employ than performing disassembly and inspection of the valves. While nonintrusive techniques may not be feasible in all of the installations, it may be advantageous to determine where these techniques could be applied. For example, several utilities have indicated that significant cost savings can result from testing the accumulator discharge check valves with flow, using nonintrusive techniques, over disassembly and inspection. A summary of the methods employed by pressurized water reactor licensees for these valves was developed by Oak Ridge National Laboratory, ORNL/NRC/LTR-94-04, "Utility Survey PWR Safety Injection Accumulator Tank Discharge Check Valve Testing."

9. In Relief Request PV-01, the "Frequency of Proposed Alternative" states that it will be as specified in "OM-1." The correct reference should be "OM-6." Also, as noted above, Relief Request PV-04 incorrectly references paragraph 5.3(d) of OM-6, while the correct reference is paragraph 5.2(d).
10. Relief Request PV-01 (see Section 3.9.6.1 of SSER 14, to be published) will be authorized with the provision that, prior to assigning the 0.10 in/sec as a minimum reference value, the applicant review each case, including any manufacturers' recommendations on acceptable vibration levels, to ensure that the proposed minimum reference value is appropriate. Once the O&M Committee comes to a consensus and changes the Code with guidance for smoothly-running pumps, the applicant must adopt the guidance or develop and justify a reasonable alternative to the Code. If the O&M Committee changes the Code in a manner that is consistent with the requested alternative, no further action will be required for the alternative to be acceptable on a continuing basis.
11. For Relief Request PV-03 (see Section 3.9.6.1 of SSER 14, to be published) the alternative to use temporary flow instrumentation for inservice testing the boric acid transfer pumps will be authorized for a period not to exceed beyond the first refueling outage. During the interim period, the applicant must further assess the possibility of performing a supplemental test during cold shutdowns or refueling outages.
12. For Relief Request PV-06, the proposed alternative will not be approved as requested. The applicant's justification does not necessarily agree with discussions in the O&M Committee working group. The issue is more appropriately one that should be addressed to the O&M Committee, considering that the applicant's basis is stated as its interpretation of the requirements of OM-1, and is an issue that is already under discussion within the working group.
13. Relief Request PV-13 (see Section 3.9.6.3 of SSER 14, to be published) states that the function is to open, but the alternative is described as verifying the backseating function. This discrepancy should be corrected.

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

cc:

Mr. Craven Crowell, Chairman
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. W. H. Kennoy, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Johnny H. Hayes, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, TN 37902

Dr. Mark O. Medford, Vice President
Engineering & Technical Services
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. D. E. Nunn, Vice President
New Plant Completion
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. J. A. Scalice, Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
Route 2, P.O. Box 2000
Spring City, TN 37381

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Roger W. Huston, Manager
Nuclear Licensing and Regulatory Affairs
Tennessee Valley Authority
4G Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

WATTS BAR NUCLEAR PLANT

Mr. B. S. Schofield
Site Licensing Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
Route 2, P.O. Box 2000
Spring City, TN 37381

TVA Representative
Tennessee Valley Authority
11921 Rockville Pike
Suite 402
Rockville, MD 20852

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW., Suite 2900
Atlanta, GA 30323

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
Route 2, Box 700
Spring City, TN 37381

The Honorable Robert Aikman
County Executive
Rhea County Courthouse
Dayton, TN 37321

The Honorable Garland Lanksford
County Executive
Meigs County Courthouse
Decatur, TN 37322

Mr. Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

Ms. Danielle Droitsch
Energy Project
The Foundation for
Global Sustainability
P.O. Box 1101
Knoxville, TN 37901

Mr. Bill Harris
Route 1, Box 26
Ten Mile, TN 37880