



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 21, 1999

NOTE TO: Rich Correia
Section Chief, Section 2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Robert E. Martin, Senior Project Manager *R. Martin*
Section II-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: Draft Request for Additional Information on Elimination of Response Time
Testing for Watts Bar and Sequoyah

The attached draft Request for Additional Information was forwarded to the Tennessee Valley Authority staff for Watts Bar Unit 1 and Sequoyah Units 1 and 2 on December 21, 1999. It addresses issues to be resolved to support issuance of revisions to the Technical Specifications for the elimination of response time testing for certain components.

Docket Nos: 50-390, 50-327, 50-328

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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Mr. J. A. Scalice
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - TECHNICAL SPECIFICATION CHANGE NO. 99-007, RESPONSE TIME TEST (RTT) ELIMINATION, WATTS BAR NUCLEAR PLANT, UNIT 1 (TAC NO. MA6768) AND TECHNICAL SPECIFICATION CHANGE NO. 99-08, RESPONSE TIME TEST (RTT) ELIMINATION, SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. MA 6498 AND MA6499)

Dear Mr. Scalice:

On September 28, and August 30, 1999, the Tennessee Valley Authority (TVA) submitted applications to the U.S. Nuclear Regulatory Commission (NRC) for amendment to the Technical Specifications and facility operating license for the Watts Bar Nuclear Plant, Unit 1 (WBN) and the Sequoyah Nuclear Plant, Units 1 and 2. The proposed amendment would eliminate the requirement for response time testing for certain components provided that the components and methodology for verification have been previously reviewed and approved by the NRC. The proposed amendments also reflect a generic change to NUREG-1431 (Westinghouse Standard Technical Specifications) that was approved by the NRC staff on June 29, 1999.

The staff's review of these two submittals has identified matters for which additional information is requested, as noted in the enclosure. As discussed with your staff on _____, 1999, TVA agreed to provide a response to the Request for Additional Information by _____, 1999.

Sincerely,

Robert E. Martin, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: Request for Additional
Information

DRAFT

REQUEST FOR ADDITIONAL INFORMATION

1.0 INTRODUCTION

Instrument channel response time is, generally, the time span from when a monitored variable exceeds a predetermined setpoint, at the channel sensor, until the actuated device begins its safety function. Response time testing (RTT) has been an integral part of the Technical Specification (TS) instrument surveillance program to assure the proper functioning of the sensors and instrumentation loops for the engineered safety features (ESF or ESFAS) and the reactor trip system (RTS).

The Westinghouse Owners Group (WOG) performed two analyses to assess the impact of elimination of RTT for instruments and instrument loops. These analyses also discussed alternate test methodologies that would show that the instrumentation was functioning correctly. The first of these analyses was the WOG Licensing Topical Report WCAP-13632-P-A, Revision (Rev.) 2, "Elimination of Pressure Sensor Response Time Testing Requirements," which was approved by the staff's safety evaluation (SE) letter, B. Boger, NRC, to R Newton, WOG, dated September 5, 1995. The second analysis, WCAP-14036-P-A, Rev. 1, "Elimination of Periodic Protection Channel Response Time Tests," was approved by the staff's SE letters, T Essig, NRC, to L Liberatori, WOG, dated October 6 and November 3, 1998. The Tennessee Valley Authority (TVA or licensee) submitted applications to revise the TS for the Watts Bar (WBN) and Sequoyah (SQN) plants, based on these two WOG reports, to provide for verification of response time for selected components provided the components and the methodology for verification have been previously reviewed and approved by the Nuclear Regulatory Commission (NRC or staff).

2.0 WATTS BAR NUCLEAR PLANT SUBMITTAL OF SEPTEMBER 28, 1999

By letter dated September 28, 1999, TVA submitted a request for changes to the WBN plant TS. The staff has identified a need for the following information based on a review of TVA's response to the conditions specified in the staff's SEs approving WOG topical reports.

Condition 2: For transmitters and switches that use capillary tubes, perform an RTT after initial installation and after any maintenance or modification activity that could damage the capillary tubes.

Licensee's Response: "Plant procedure revisions (and/or other appropriate administrative controls) will stipulate that pressure sensors (transmitters) utilizing capillary tubes, that can be tested, must be subjected to RTT after initial installation and following any maintenance or modification activity which could damage the transmitter capillary tubes."

RAI: The licensee's response does not address switches. The licensee is requested to address its plans for RTT for switches in response to the condition in the SE. Also, please clarify the meaning of the term "that can be tested" with respect to whether its interpretation would exclude any transmitters or switches that use capillary tubes from the testing addressed by the SE condition.

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Condition 3: If variable damping is used, implement a method to assure that the potentiometer is at the required setting and cannot be inadvertently changed or perform hydraulic RTT of the sensor following each calibration.

Licensee Response: "WBN has no pressure transmitters with variable damping installed in any RTS or ESFAS application for which RTT is required; therefore, no WBN procedure changes or enhanced administrative controls are required.

RAI: The licensee's response adequately addresses the present plant condition. However the licensee is requested to address its plans and commitments for addressing RTT issues if future actions result in the replacement of transmitters with those having variable damping capability.

3.0 SEQUOYAH NUCLEAR PLANT SUBMITTAL OF AUGUST 30, 1999

By letter dated August 30, 1999 , TVA submitted a request for changes to the SQN TS.

Condition 1

Please provide a commitment, to be entered in the SQN Commitment Tracking System, that will ensure the continued implementation of TVA's response for Condition 1.

Condition 2: For transmitters and switches that use capillary tubes, perform an RTT after initial installation and after any maintenance or modification activity that could damage the capillary tubes.

Licensee's Response: "Plant procedure revisions (and/or other appropriate administrative controls) will stipulate that pressure sensors (transmitters) utilizing capillary tubes, that can be tested, must be subjected to RTT after initial installation and following any activity which could damage the transmitter capillary tubes."

RAI: The licensee's response does not address switches. The licensee is requested to address its plans for RTT for switches in response to the condition in the SE. Also, please clarify the meaning of the term "that can be tested" with respect to whether its interpretation would exclude any transmitters or switches that use capillary tubes from the testing addressed by the SE condition. Please provide a commitment, to be entered in the SQN Commitment Tracking System, that will ensure the continued implementation of TVA's response for Condition 2.

Condition 3: If variable damping is used, implement a method to assure that the potentiometer is at the required setting and cannot be inadvertently changed or perform hydraulic RTT of the sensor following each calibration.

Licensee Response: "SQN has no pressure transmitters with variable damping installed in RTS or ESFAS applications for which RTT is required. No SQN procedure changes or enhanced administrative controls are required."

RAI: The licensee's response adequately addresses the present plant condition. However the licensee is requested to address its plans and commitments for addressing RTT issues if future actions result in the replacement of transmitters with those having variable damping capability.

Item - Allocated sensor response times

The staff's SE for WCAP-13632 notes that Westinghouse has proposed using allocated sensor response times in accordance with the methodology described in Section 9 of WCAP-13632, Revision 2. Allocations for sensor response times would be obtained from (1) historical records based on acceptable RTT (hydraulic, noise, or power interrupt tests), (2) in-place, onsite, or offsite (e.g., vendor) test measurements, or (3) utilizing vendor engineering specifications. In this regard, Tables 1 and 2 of SQN's application identifies RTS and ESFAS equipment and provides the bounding response time values to be used for SQN equipment. Note 3 indicates that the sensor values are from a SQN Surveillance Instruction procedure but does not indicate which of the above three methods was utilized. Please indicate which of the above three methods, and the basis for its selection, was utilized for each of the SQN sensors.

Technical Specification 4.3.1.1 and 4.3.2.1.3

Please discuss the need for further revision to TS 4.3.1.1 to ensure consistency with the proposed revision to the definition for Reactor Trip System Response Time. TS 4.3.1.1, with proposed revisions to reflect the subject reduction of RTT, is based on "...one logic train..." whereas the markup of the NUREG 0452 TS 4.3.1.2, as included in WCAP-13632, applies to the entire train. Clarify that the proposed revision to SQN's RTT TS 4.3.1.1 includes the entire train and is not limited to just the logic portion of the train. A similar comment applies to TS 4.3.2.1.3 for the ESFAS.

Bases Revisions

The proposed revisions to SQN Bases page B3/4 3-2 deviates from the first and third paragraphs of Appendix A, Insert A in WCAP-14036. The licensee is requested to revise the Bases to be fully consistent with the model TS in the approved WCAP or provide suitable justification for the deviations.