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

January 24, 2013

10 CFR 50.4

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2
NRC Docket No. 50-391

Subject: **Watts Bar Nuclear Plant (WBN) Unit 2 - Supplemental Safety Evaluation Report (SSER) Appendix HH Item 50, Anchor Bolt Documentation and Pull Tests - Revision**

References:

1. NRC letter to TVA dated November 13, 2012, "Watts Bar Nuclear Plant Unit 2 Construction - NRC Integrated Inspection Report 05000391/2012608"
2. NUREG-0847 Supplement 25, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Unit 2"
3. NRC letter to TVA dated July 2, 2010, "Watts Bar Nuclear Plant, Unit 2 - Program for Construction Refurbishment (TAC No. ME1708)"
4. TVA letter to NRC dated September 22, 2009, "Summary of August 6, 2009, Meeting with Tennessee Valley Authority (TVA) Regarding Watts Bar Unit 2 Construction Refurbishment Program"

The purpose of this letter is to revise the method used to verify the proper installation of existing concrete anchor bolts for safety-related pipe supports in those instances where pull test documentation cannot be located. Section OA.1.3 of Reference 1 documents recent NRC inspection activities related to concrete anchors and indicates that the inspection activity remains open pending review of an updated response and implementation of actions. Reference 2 provides a status of open items that must be resolved prior to completion of an NRC finding of reasonable assurance on the operating license application for WBN Unit 2. Specifically, Appendix HH, Item 50 of Reference 2 addresses documentation of anchor bolts. Reference 3 provides the Staff Evaluation by the Office of Nuclear Reactor Regulation Regarding Program for Construction Refurbishment (Refurbishment Program), including the plan for addressing anchor bolts for which documentation could not be located. Reference 4 provides TVA responses to the questions and comments on the Refurbishment Program that were discussed at a public meeting on August 6, 2009, and specifies the original method for addressing anchor bolts for which documentation could not be located.

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NRO

Enclosure 1 provides the background and the basis for this revision. The Regulatory Framework status for SSER Appendix HH Item 50 will be revised to reflect this change in the next update.

Enclosure 2 provides the new commitment made in this letter.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 24th day of January, 2013.

If you have any questions, please contact Gordon Arent at (423) 365-2004.

Respectfully,

R. A. Hruby, Jr.

Raymond A. Hruby, Jr.
General Manager, Technical Services
Watts Bar Unit 2

Enclosures:

1. Revision of SSER Appendix HH Item 50 - Concrete Anchor Pull Test Documentation

2. List of Commitments

cc (Enclosures):

U. S. Nuclear Regulatory Commission
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NRC Resident Inspector Unit 2
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ENCLOSURE 1

Revision of SSER Appendix HH Item 50 - Concrete Anchor Pull Test Documentation

Background

Watts Bar Nuclear Plant Unit 2 Construction - Nuclear Regulatory Commission (NRC) Integrated Inspection Report 05000391/2012608, Section OA.1.3 states:

> b. Observations and Findings
>
> No findings were identified. The inspectors noted that the applicant's scope and plans for actions involving anchor bolt pull tests and records were updated since the NRC letter dated July 2, 2010.
>
> c. Conclusions
>
> The applicant's actions to address this item have been updated and, based on discussions with the TVA licensing; issuance of a revised letter has been planned in order for the NRC to conduct a proper review of the revised actions to address this issue. This item remains open pending review of the updated response and implementation of approved actions.

SSER Appendix HH Item 50 states:

> "TVA stated that about 5 percent of the anchor bolts for safety-related pipe supports do not have quality control documentation, because the pull tests have not yet been performed. Since the documentation is still under development, the NRC staff will conduct inspections to follow-up on the adequate implementation of this construction refurbishment program requirement. (NRC letter dated July 2, 2010, ADAMS Accession No. ML101720050)"

NRC letter dated July 2, 2010, "Watts Bar Nuclear Plant, Unit 2 - Program for Construction Refurbishment (TAC No. ME1708)" states:

> "In its September 22, 2009, response, TVA stated that anchor bolts are visually inspected under various programs (e.g., NRC Bulletin 79-14, "Seismic Analyses for As-Built Safety-Related Piping Systems," Program). TVA also stated that quality control (QC) documentation records was retrieved, reviewed, and evaluated to ensure proper installation of anchor bolts for safety related pipe supports. Further, for any anchors that do not have this documentation, it planned to conduct a pull test. TVA stated that if the pull test does not show that the anchor has adequate capacity, the anchor will be replaced. "

TVA letter dated September 22, 2009, "Summary of August 6, 2009, Meeting with Tennessee Valley Authority (TVA) Regarding Watts Bar Unit 2 Construction Refurbishment Program" states:

> "Anchor bolt installations for safety-related pipe supports have had QC documentation records retrieved, reviewed, and evaluated to ensure proper installation. For any anchors that do not have this documentation, a pull test will be performed. If the pull test does not show that the anchor has adequate capacity, the anchor will be replaced."

ENCLOSURE 1

Revision of SSER Appendix HH Item 50 - Concrete Anchor Pull Test Documentation

During a recent inspection, NRC Inspectors noted that, in some cases, the pull tests were not being performed as specified on concrete anchors when the Quality Control (QC) documentation could not be retrieved. Rather, the anchors were being replaced in lieu of performing the specified pull test. Therefore, the following revision is provided:

Revision:

The following provides revision of the method used to address existing concrete anchor bolts where QC documentation cannot be located:

Hanger Analysis and Upgrade Program (HAAUP) Supports:

Anchor bolt installations for safety-related supports have QC documentation records retrieved, reviewed, and evaluated to ensure proper installation. If pull test documentation is available, it is referenced in the support calculation. If pull test documentation is not available, the support is modified to replace existing anchors with wedge bolt anchors or undercut anchors, including appropriate inspection and documentation.

I & C Sampling and Sense Line Supports:

Anchor bolt installations for supports have QC documentation records retrieved, reviewed, and evaluated to ensure proper installation. If pull test documentation is available, it is referenced in the support calculation. If pull test documentation is not available, a pull test is performed at least for the given design load times a factor of safety of 5. If the pull test fails, anchor bolts are replaced, including appropriate inspection and documentation.

Summary:

For anchor bolt supports, if QC documentation records are available and determined to be adequate, these records are referenced in the support calculation and no pull test is performed.

For supports within the scope of the HAAUP program where concrete anchor bolt documentation cannot be located, anchor bolts are replaced and documented without first pull-testing the anchors. This method ensures appropriate inspection and test documentation for concrete anchor bolts on these supports.

For supports for I&C sampling and sense lines where concrete anchor bolt documentation cannot be located, the method of pull testing the anchors is as originally stated in the TVA letter dated September 22, 2009.

ENCLOSURE 2

LIST OF COMMITMENTS

1. The Regulatory Framework status for SSER Appendix HH shown in Reference 1 will be revised to reflect the anchor bolt verification methodology described in this letter in the next update.