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AUG 19 1993

U.S. Nuclear Regulatory Commission
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Gentlemen:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - NRC INSPECTION REPORT NO. 390/93-45
- REPLY TO NOTICE OF VIOLATION

The purpose of this letter is to provide a response to the Notice of Violation 390/93-45-01 cited in the subject inspection report dated July 20, 1993. This notice of violation proposes a failure to measure and document as-constructed dimensions for certain support members and welds during the performance of the Hanger Analysis and Update Program (HAAUP) walkdown effort. Requirements for this walkdown are defined in the TVA Walkdown Procedure (WP)-32, "Walkdown of As-Built Piping Systems Under the Scope of HAAUP."

The enclosure to this letter addresses the specific conditions described in the inspection report and provides TVA's basis for disputing the cited notice of violation.

Should there be any questions regarding this submittal, please telephone P. L. Pace at (615) 365-1824.

Very truly yours,

William J. Museler

Enclosure
cc: See page 2

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cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
RESPONSE TO NRC'S JULY 20, 1993 LETTER TO TVA
NRC VIOLATION 390/93-45-01

Description of Violation 390/93-45-01

10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, requires that activities affecting quality be prescribed by documented instructions or procedures and shall be accomplished in accordance with these instructions or procedures.

TVA procedure WP-32, Walkdown of As-Built Piping Systems Under the Scope of HAAUP, Revision 5, specifies the requirements of performing walkdown inspections of pipe supports and developing as-built drawings of pipe supports. Contrary to the above, the requirements of procedure WP-32 were not followed as shown by the following examples:

1. Paragraph 5.3.3 of procedure WP-32 requires that dimensions of the loaded length of support members shall be measured and documented. On June 21, 1993, the loaded length of a member on pipe support 1074-1RHR-R1, item 9 on the bill of material, Tube Steel 4 X 2 X 1/4 inch was not correctly measured and documented.
2. Paragraph 5.3.19 of WP-32 requires that type, size, length, and location of welds shall be measured and either check marked as correct, corrected as required, or added to the support drawing or attachment. On June 21, 1993, the type, size, and length of welds were not correctly measured, check marked, or added on the as-built drawing for pipe support 1-63-458.

Discussion

In accordance with TVA procedure WP-32, walkdowns performed for the Hanger Analysis and Update Program (HAAUP) are intended to identify significant discrepancies between the as-constructed plant conditions and associated design documentation. Minor issues which are not critical to component or system qualification are not specifically highlighted by WP-32 as requiring correction on the as-built drawings.

The examples identified within this violation are two such documentation issues which are considered minor in nature. Consequently, they do not represent a violation of procedure for the following reasons:

Basis for Disputing the Violation

Example 1:

Section 5.3.3 of the Walkdown Procedure, WP-32, requires lengths of support members to be measured to specific tolerances. However, for thickness of members the procedure states in part, "Nominal size of structural components (e.g., 4 X 4 tube steel, W6 member) and the thickness of closed structural members, angles, plates, and channels shall be visually verified." This requirement was performed for the subject pipe support. The walkdown sketch for hanger 1074-1RHR-R1 indicated that the member size for item 9 matched the as-constructed drawing by visual inspection.

Potential reasons for the 1/16" variation between the visual inspection and a mechanical measurement include: a) the end of the tube steel did contain burrs which apparently resulted from cutting of the material prior to installation. These burrs give the impression that the material is thicker than 3/16". b) the ASTM standard for A500 material allows a $\pm 10\%$ tolerance on tube wall thickness. The maximum allowable thickness for 3/16" material (i.e., $0.1875 + 0.01875 = 0.2063$ ") is very similar to the minimum allowable thickness for 1/4" material ($0.25 - 0.025 = 0.225$ "). Small differences such as this would not be identified by visual inspection. Actual field measurements are provided on the attached Sketch 1.

Since the walkdown engineer reasonably recorded this measurement in accordance with the visual observation requirements of WP-32, no procedural violation occurred.

Following the mechanical verification of the actual material thickness, pipe support calculation 741RHRR001 was re-reviewed for acceptability. The minimum stress safety margin factor for this member was found to be 8.055, while the maximum deflection had a minimum margin factor of 11.51. The 1/16" discrepancy does not invalidate the structural integrity of the existing hanger.

Calculation 741RHRR001 was nevertheless revised to address this discrepancy and DCN S-25911-A issued to reconcile the hanger drawing with the revised tube thickness.

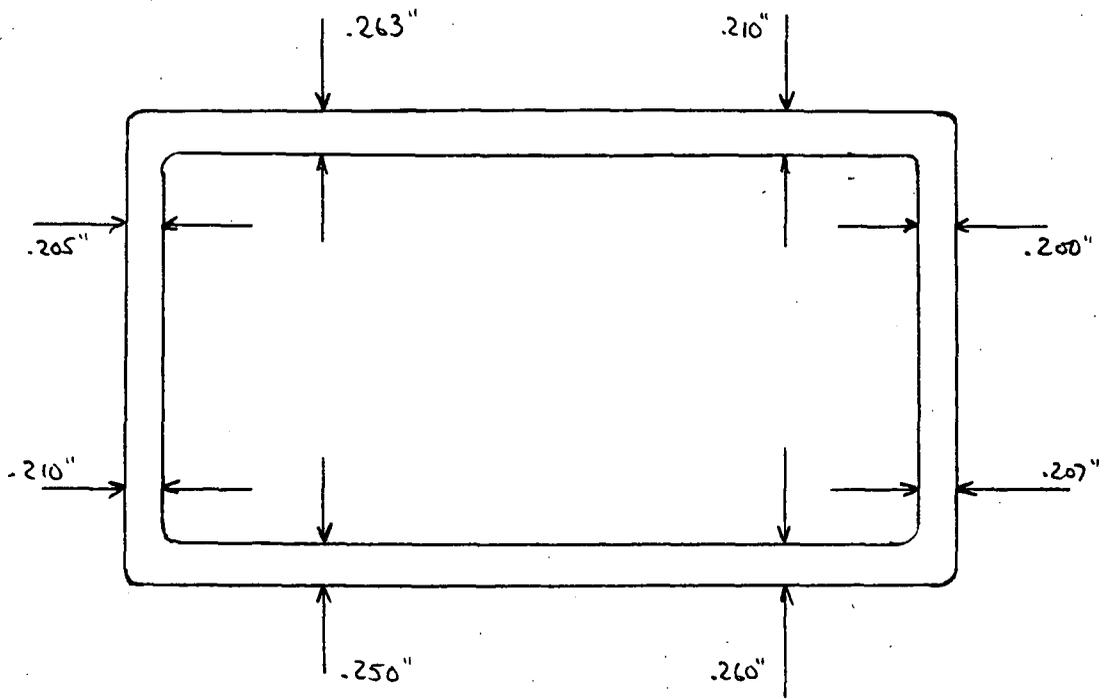
Example 2:

As stated in the NOV, Section 5.3.19 of the walkdown procedure WP-32 states in part, "Type, size, length, and location of welds shall be measured and either check marked as correct, corrected as required, or added to the hanger drawing or attachment." This requirement was performed for the weld on the subject pipe support.

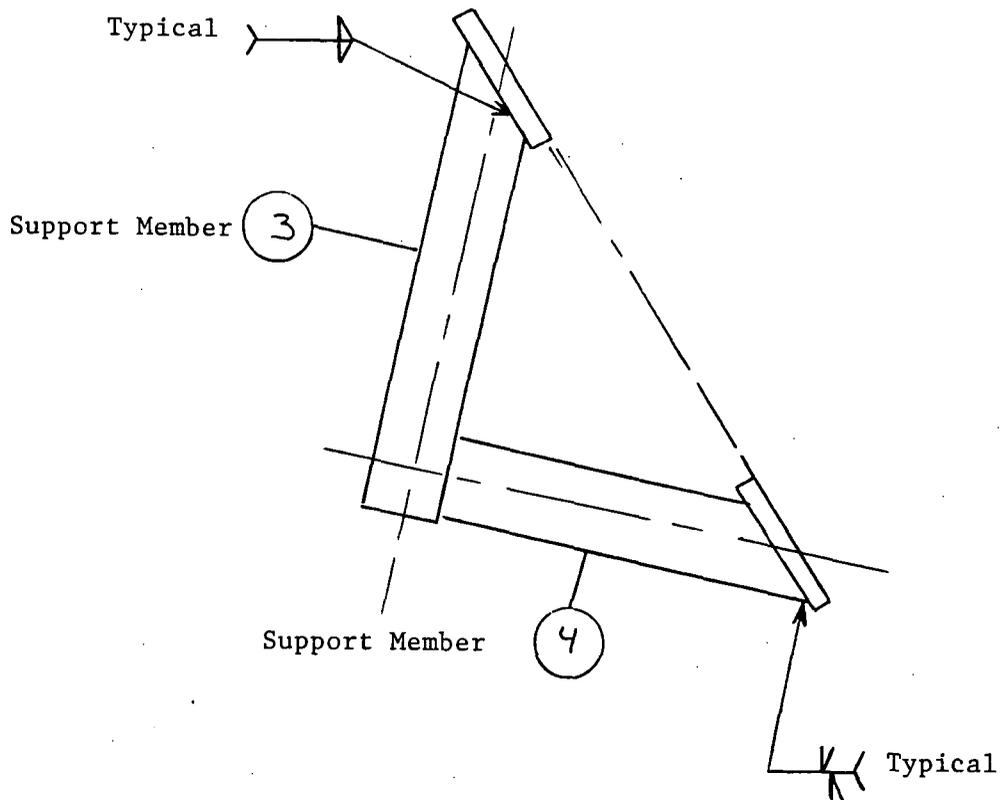
The as-constructed drawing for the subject support indicated the weld was a 5/16" fillet weld typical (the term typical was used to mean that the weld was typical in two places, between support member 4 (Item 4) and one of the baseplates and the other weld between support member 3 (Item 3) and the other baseplate). The walkdown sketch changed the 5/16" fillet weld symbol to a near side and far side full penetration weld. The near side meaning the weld between member 4 and one baseplate while the far side meant the weld between member 3 and the other baseplate. (See attached Sketch 2).

Neither the as-constructed drawing nor the walkdown mark-up were meant to indicate that four-sided welds are required for these members, given the difficulty of implementing an inside acute angle weld.

The original pipe support calculation for support 163458 properly evaluated a three-sided weld for members 3 and 4. The walkdown data was misinterpreted during the HAAUP re-evaluation and a four-sided weld was incorrectly assumed. This misinterpretation has been evaluated and the results are inconsequential. Nevertheless, calculation 163458 was revised to address this evaluation discrepancy and DCN S-25911-A issued to reconcile the hanger drawing with the clarified weld information.



Field Measurements - Support 1074-1RHR-R1
Sketch 1



Support 163458
Sketch 2