TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

October 16, 1979

Director of Nuclear Reactor Regulation
Attention: Mr. Thomas A. Ippolito, Chief
Branch No. 3
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Ippolito:

In the Matter of the ) Docket No. 50-296
Tennessee Valley Authority )

Enclosed for NRC review is additional information in support of Request for Relief ISI-9 submitted as part of the Browns Ferry Nuclear Plant Unit 3 Inservice Inspection Program by letter from J. E. Gilleland to you dated March 29, 1979. This information was requested by NRC in an August 27, 1979, telephone conversation with members of your staff. Please complete your review of the Browns Ferry unit 3 ISI program as expeditiously as possible.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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ENCLOSURE

ADDITIONAL INFORMATION REGARDING
INSERVICE INSPECTION PROGRAM REQUEST FOR RELIEF ISI-9
BROWNS FERRY NUCLEAR PLANT UNIT 3
(DOCKET NO. 50-296)

To provide justification for Request for Relief ISI-9 an analysis was performed on a selection of integral supports that are subject to fatigue loading. Integral welds in the latest sampling indicated substantially higher stress allowable factors of safety with a minimum factor of 8.3 calculated.

Attached is a list of assumptions used in the analysis and a summary of analysis results. Based on these results, we believe that the integral support welds are entirely acceptable, and relief from the inservice volumetric examination requirements of the ASME Section XI Code is justified.

ATTACHMENT

ASSUMPTIONS

1. Due to lack of full penetration, fillet welds were assumed with a base dimension equal to the specified penetration groove opening.

2. Restraint loads as specified by the support assembly drawings were applied.

3. Effective area of the fillet welds was in accordance with paragraph XVII-2452.5, Appendix XVII, Section III, ASME Code.

4. Shear and tensile stresses in the welds were combined by the maximum shear stress formula to compare with the fillet weld shear allowables presented in paragraph NF-3291.1-1, subsection NF, section III, ASME Code. The minimum specified shear allowable is applied in all cases.

5. No stress concentration factors were applied. The high factors of safety more than offset any concentration effects.

SUMMARY OF RESULTS

PIPE INTEGRAL ATTACHMENT WELDS

| HANGER | LOAD(POUNDS) | MAXIMUM SHEAR STRESS | SAFETY FACTOR |
|---|---|---|---|
| RHR-R-74 | 840 | 463 PSI | 39 |
| RHR-H-1* | 15940 | 2155 PSI | 8.3 |
| RHR-H-3* | 11075 | 1367 PSI | 13.2 |
| MS-H-B1, -C1* | 3606 | 740 PSI | 24.3 |
| MS-H-B2, -C2* | 6350 | 1425 PSI | 12.6 |
| RWC-H-1* | 1300 | 854 PSI | 21 |
| HPCI-H-1 (H152) | 6060 | 1630 PSI | 11.0 |
| HPCI-H-2 (H48) | 2368 | 1070 PSI | 16.8 |
| RH-2, -12* | 11800 | 1780 PSI | 10.1 |
| RH-7, -9* | 13400 | 1719 PSI | 10.5 |
| RH-10, -11* | 8900 | 1342 PSI | 13.4 |

*For these lugs, drawings call out full penetration plus fillet welds.