

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

OCT 06 1989

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

Gentlemen:

In the Matter of) Docket No. 50-260
Tennessee Valley Authority)

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 2 - RESPONSE TO NRC INSPECTION REPORT
NO. 50-260/89-31

Reference: NRC Inspection Report No. 50-260/89-31, dated July 17, 1989.

This letter is in response to the open items of NRC Inspection Report No. 50-260/89-31 dated July 17, 1989. The design areas reviewed during this inspection were the seismic analysis of the reactor building including the reactor pressure vessel (RPV), RPV support, internals, and the evaluation of the primary components of the nuclear steam supply system.

Three open items were summarized in the conclusion of this inspection report.

1. The methods used by GE for primary system evaluation are acceptable provided that additional information is provided to justify the adequacy of method Numbers 2 and 3. TVA agreed to supply this information when available.

In response to this item, GE performed a reevaluation of the Browns Ferry reactor vessel and internals, utilizing the correct RPV dynamic model and addressing the conditions stipulated for qualification Methods 1, 2, or 3. The results of this reevaluation are documented in the GE seismic assessment report included as Enclosure 1 to this submittal.

2. Due to deletion of Appendix J from the current BFN FSAR, the staff was not able to review the original design basis and criteria for the primary systems. TVA agreed to redocket Appendix J and to find out the cause of deleting this appendix if possible.

In response to this item, TVA redocketed the original design basis for the Browns Ferry Units 1, 2, and 3 RPV analyses via a submittal dated June 23, 1989. As noted in that submittal, during the general update of the FSAR in 1984, simplification of the detailed design content was intended. Accordingly, the body of these appendices was deleted and replaced with short summaries.

TEO1
/1

OCT 06 1989

3. When the dynamic model of the RPV, internals, and supports was developed, TVA incorrectly assumed the existence of seismic restraints at the lower end of the CRD housings. This inspection finding was confirmed by the original design drawing and a field walkdown. TVA is developing a modification for the installation of seismic restraints on the CRD housings and will report to the staff when finalized. This open issue is considered as an Unresolved Item (URI 89-31-01).

As a result of this finding it is unclear to the staff when the error might have first occurred and on which RPV model the design basis and results documented in the BFN FSAR are based. In order to clarify these uncertainties, the staff requested that TVA provide: (1) the original seismic analysis results (report) used to license BFN, (2) the revision date of the current FSAR and the version of RPV model documented in the current FSAR, (3) the revision of the current Table C.0-5 of the FSAR and model used to generate the stresses tabulated in this table, (4) a copy of GE Report 22A2016, Revision 0, 1, and 2, and (5) a copy of Appendix J originally found in earlier versions of the FSAR.

TVA has committed to install seismic restraints on the CRD housings prior to unit restart. The current reevaluation performed by GE for the RPV and intervals assumes the prerestart installation of these support structures.

Responses to the five information requests follow:

- A. Original seismic analysis used to license BFN

The original seismic analysis used to license BFN is Appendix J, R0. The backup calculations for Appendix J cannot be found. This is why the current model was developed.

- B. Establish revision date of current FSAR and version of RPV model documented in the current FSAR

The revision date of the current FSAR is July 22, 1988, Amendment 6. The version of the RPV model referenced in the current FSAR is still Appendix J, R0. Appendix J was deleted from the current FSAR, but the seismic responses from the Appendix J model for the RPV, shield wall, and pedestal were incorporated into Chapter 12 (Figures 12.2-34, -35, -36, -37, -38, -39). Also Section 3.3.5.5 discusses the seismic model and Figure 3.3-11 shows a schematic of the RPV mathematical model which is representative of the model from Appendix J.

- C. Revision date of current FSAR Table C.0-5 and model used to generate the stresses tabulated in this table

The model used to generate the stresses tabulated in Table C.0-5 for the CRD housing is based on GE Report 22A2016 R2. The revision date of the table is July 22, 1988, Amendment 6.

U.S. Nuclear Regulatory Commission

OCT 06 1989

D. Copy of GE Report 22A2016, R2

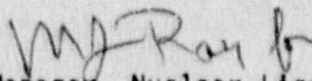
A copy of the report was made available to NRC during the August audit. Due to its proprietary classification, issuance was not available.

E. Copy of Appendix J found in earlier FSAR

The original Appendix J RPV evaluation was redocketed with the staff as discussed in previous item No. 2.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


Manager, Nuclear Licensing
and Regulatory Affairs

Enclosures

cc (Enclosures):

Ms. S. C. Black, Assistant Director
for Projects
TVA Projects Division
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. B. A. Wilson, Assistant Director
for Inspection Programs
TVA Projects Division
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

NRC Resident Inspector
Browns Ferry Nuclear Plant
Route 12, Box 637
Athens, Alabama 35609-2000

Enclosure 1

General Electric Co.
Seismic Assessment of
Browns Ferry 2
Reactor Vessel and Internals