

Tennessee Valley Authority, Post Office Box 2000, Sogdy Daisy, Tennessee 37379-2000

Masoud Bajestani
Site Vice President
Sequoyah Nuclear Plant

August 20, 1997

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

10 CFR 2.201

Gentlemen:

In the Matter of)	Docket Nos.	50-327
Tennessee Valley Authority)		50-328

SEQUOYAH NUCLEAR PLANT (SQN) - NRC INSPECTION REPORT NOS.
50-327/97-03 AND 50-328/97-03 - REPLY TO NOTICE OF VIOLATION
(NOV)

This letter provides TVA's reply to NOV 50-327/97-03, Violation G. The violation was documented in the subject inspection report dated May 12, 1997, and reaffirmed in NRC's July 23, 1997 letter that reviewed TVA's June 11, 1997 denial of the violation. The violation was characterized as a failure to maintain adequate design control relative to accident dose calculations.

TVA understands that no response is required for Example 1 of the violation based on NRC's evaluation and withdrawal of the example as documented in NRC's July 23, 1997 letter.

The enclosure contains TVA's response to Examples 2 and 3 of the NOV.

9708270043 970820
PDR ADOCK 05000327
G DR

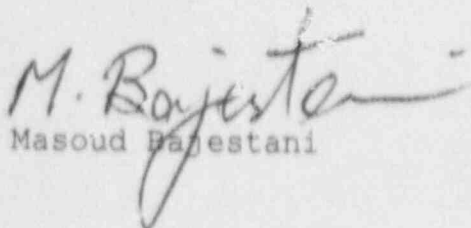
270011



U.S. Nuclear Regulatory Commission
Page 2
August 20, 1997

If you have questions regarding this response, please contact me at (423) 843-7001 or Pedro Salas at (423) 843-7170.

Sincerely,


Masoud Banestani

Enclosure

cc (Enclosure):

Mr. R. W. Hernan, Project Manager
Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852-2739

NRC Resident Inspector
Sequoyah Nuclear Plant
2600 Igou Ferry Road
Soddy-Daisy, Tennessee 37379-3624

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303-3415

ENCLOSURE

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNITS 1 AND 2

INSPECTION REPORT NUMBERS 50-327/97-03 AND 50-328/97-03
REPLY TO NOTICE OF VIOLATION (NOV)

RESTATEMENT OF VIOLATION G (50-327, 328/97-03-09)

"10 CFR 50, Appendix B, Criterion III, Design Control, requires in part that measures be established to assure that applicable regulatory requirements are correctly translated into drawings and procedures. The measures shall include provisions to assure that appropriate quality standards are specified and included in design documents. The design control measures shall also provide for verifying or checking the adequacy of design.

Tennessee Valley Authority Nuclear Quality Assurance Plan TVA-NQA-PLN89-A, Revision 6, Section 7.0, Design Control, requires that measures be established to ensure that the performance of design analysis shall be planned and controlled. Additionally, it requires that measures to control plant configuration and ensure that the actual plant configuration is accurately depicted on drawings and other appropriate design output documents and reconciled with the applicable design basis shall be established, documented, and implemented.

TVA-NQA-PLN89-A, through Section 7.0 and Appendix B, endorses the requirements of ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants. Section 4.0 of this standard requires that design analyses shall be performed in a planned, controlled, and correct manner. Design analyses shall also be in a form suitable for reproduction, filing, and retrieving.

Contrary to the above the established design control measures were deficient in that the following deficiencies were identified:

1. As of July 30, 1990, radiation dose values contained in design basis Calculation TI-RPS-48, Integrated Accident Dose Inside Primary Containment and Annulus, Revision 3, were never incorporated in Calculation TI-ECS-55, Summary of Harsh Environment Conditions for Sequoyah Nuclear plant, to ensure revision of environmental data drawing

series number 47E235. Additionally, FSAR Figures 3.11.2-1, and 3.11.2-2 were never revised to reflect the new 100-day integrated accident doses based on a source term of 1000 EFPD. This failure to control plant configuration and ensure that actual plant configuration was accurately depicted on drawings resulted in discrepancies in design basis information listed in FSAR Table 15.1.7-1 and FSAR Figures 3.11.2-1 and 3.11.2-2.

2. On December 12, 1991, TVA management approved design basis calculation TI-RPS-48, Revision 5, "Integrated Accident Dose Inside of Primary Containment and Annulus," to document the 100-day integrated beta and gamma radiation doses based on a source term of 650 EFPD. Radiation dose values contained in this calculation were incorporated into Calculation TI-ECS-55, "Summary of Harsh Environment Conditions for Sequoyah Nuclear Plant. Additionally, plant modification DCN No. 508114A, Revision 16, revised Environmental Drawings Number 1,2-47E235 Sheets 45, 47, and 48 to replace radiation values that were no longer conservative. These drawing revisions did not accurately depict actual plant configuration in that on the following dates listed the core average exposure for both units exceeded 650 EFPD operation.

<u>Unit No.</u>	<u>Cycle No.</u>	<u>Date EFPD Exceeded</u>
1	4	12-29-89
1	5	06-09-91
2	3	12-30-88
2	4	05-24-90
2	5	09-28-91

This failure to control plant configuration and ensure that actual plant configuration was accurately depicted on drawings resulted in discrepancies between the units' current licensing basis of 1000 EFPD burnup criterion and approved design basis information depicted on the environmental drawings.

3. From February 11, 1994, to November 15, 1996, the licensee failed to perform a calculation to determine the integrated maximum hypothetical accident gamma and beta doses inside the primary containment to support a justification for continued operation for SQ PER-900372 PER.

This is a Severity Level IV Violation (Supplement I)."

TVA's REPLY TO THE VIOLATION G

1. Reason For The Violation

The cause of the violation was inadequate management oversight and direction. TVA management failed to develop and implement timely and comprehensive corrective actions after discovering the discrepancies between the unit's current licensing basis of 1000 EFPD burnup criterion and approved design basis information as depicted on the environmental drawings (NRC's second example of the violation). This included failing to develop a calculation to support a justification for continued operation (JCO) (NRC's third example of the violation).

2. Corrective Steps Taken And Results Achieved

TVA revised and issued the calculations for: 1) the integrated accident dose inside primary containment and the annulus, and 2) the summary of harsh environment conditions. Design Criteria No. SQN-DC-V-21.0, "Environmental Design," was issued incorporating the revised calculations and superseding the environmental drawings. The FSAR was revised consistent with design output documentation. These actions resolved the plant configuration issue. TVA issued a formal calculation that provides the supporting documentation for the JCO.

Site management is more aggressive in the corrective action program providing increased oversight and direction. Key department managers participate as members of the management review committee (MRC). The MRC reviews each problem evaluation report (PER) that is initiated and corrective actions (including implementation schedules) on Levels A and B and on selected Level C PERs. The management review ensures that problems are being properly elevated for additional attention, and problem resolution is commensurate with the importance of the condition.

3. Corrective Steps That Will Be Taken To Prevent Recurrence

No additional actions are required.

4. Date When Full Compliance Will Be Achieved

With respect to the cited violation, TVA is in full compliance.