

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

April 6, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

In the Matter of the	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
		50-296

In a letter from D. G. Eisenhower to H. G. Parris dated January 19, 1983, TVA cooperation was requested in the Seismic Safety Margins Research Program. We have studied the program as described in that letter and have decided to decline participation. Additional discussion of our decision and conclusions is enclosed.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

L. M. Mills, Manager
Nuclear Licensing

Subscribed and sworn to before
me this 6th day of April 1983.

Paulette H. White
Notary Public

My Commission Expires 9-5-84

Enclosure
cc: See page 2

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Mr. Harold R. Denton

April 6, 1983

cc (Enclosure):

U.S. Nuclear Regulatory Commission
Region II
ATTN: James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Mr. R. J. Clark
Browns Ferry Project Manager
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20814

ENCLOSURE

RESPONSE TO D. G. EISENHUT'S LETTER TO
H. G. PARRIS DATED JANUARY 19, 1983
SEISMIC SAFETY MARGINS RESEARCH PROGRAM
BROWNS FERRY NUCLEAR PLANT

TVA declines participation in the SSMRP for the following reasons.

1. TVA's Division of Engineering Design and Pickard, Lowe and Garrick, Incorporated, are presently performing a very similar analysis as part of the Browns Ferry full-scale Probabilistic Risk Assessment (PRA). We do not foresee any new information from the SSMRP. Neither do we see any manner in which this program will benefit TVA.
2. In the letter permission was requested to send a team of analysts to the plant for approximately two days for purposes of observing structures and equipment, examining plant documentation, and discussing plant operation and maintenance with personnel. Accommodating such a visit requires additional personnel for escort duties. It would also have some adverse impact on workload of key plant personnel and management while such a team is onsite. Furthermore, we do not believe such a site visit will provide any meaningful information concerning seismic qualification of equipment and structures, nor a better understanding of seismic events.
3. TVA personnel of the Division of Nuclear Power are unavailable for any support of this program. The majority of the Browns Ferry IREP personnel have left Idaho National Engineering Laboratory (INEL). Therefore, much of the knowledge is no longer available at INEL. As a result, we anticipate receiving numerous requests for additional information from NRC and/or Lawrence Livermore National Laboratories. Use of the INEL data is denied.
4. We believe that any additional activities in the area of Probabilistic Risk Assessment (PRA) will have adverse impact on our ongoing PRA activities by detracting responsible experienced TVA personnel.

5. The amount of information needed to perform the study, as outlined in enclosure 2 of the January 19, 1983 letter is tremendous. While some of the information is readily available, it represents a very small portion (less than 10 percent) of that requested. The remainder of the information would be extremely labor intensive to obtain, if at all possible. A rough estimate of the manpower required would be approximately 12-24 man-months plus a dedicated drawing reproducing machine for three to four weeks. Note that even if the INEL data base requested was provided by INEL, this would only reduce the work load by about 20 percent.

Specific comments on some of the tasks outlined in enclosure 1 of the January 19 letter are as follows.

Task 1

A complete system model including fault trees and event trees (i.e., a full-scale probabilistic risk assessment) is required. It is proposed that the PRA performed by INEL for the IREP include seismically-induced passive failures. At this point in our preliminary assessment of the IREP PRA on Browns Ferry, we find that major technical inaccuracies exist and that further use of the report would merely propagate existing errors.

Task 2

This task is proposed to determine whether any salient differences in structural response characteristics exist between BWRs and PWRs to ascertain whether PWR uncertainties are applicable to BWRs. Due to the "inverted light bulb" shape of a BWR Mark I containment, differences are likely and will probably result in a separate set of structural uncertainties. In addition, BWR Mark II or Mark III containments are different yet and would require still further study.

Task 3

This task is proposed to analyze hydrodynamic loads caused by SRV opening and closure, vent clearing, suppression pool swell, chugging and condensation acceleration, etc. TVA has been and still is in the process of a multimillion dollar program to upgrade the Browns Ferry Mark I containmert to address these exact loads. It would be counterproductive to reopen regulatory issues in this general area.

Task 6

This task is proposed to develop a local site hazard curve and time history for seismic events. This information has already been developed and is presented in the Browns Ferry FSAR, table 2.5-1, and figures 2.5-6, -8, and -9.

Conclusions

Browns Ferry has been designed for an Operating Basis Earthquake of 0.1g ground acceleration. In addition, Browns Ferry is conservatively designed to be able to be shut down with a Design Basis Earthquake of 0.2g. Thus, given the probability of an earthquake of large intensity plus the additional design conservatisms, Browns Ferry's safety systems are very conservatively designed for operating during the remaining plant lifetime.