

May 17, 2002

MEMORANDUM TO: John T. Greeves, Director  
Division of Waste Management  
Office of Nuclear Material Safety & Safeguards

FROM: Michael E. Mayfield, Director/*RA*/  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

SUBJECT: TECHNICAL ASSISTANCE WITH IMPLEMENTATION OF  
SSHAC PROBABILISTIC SEISMIC HAZARD METHODOLOGY

RES has undertaken a program to address the issue of having two different sets of probabilistic seismic hazard estimates for nuclear power plant sites in the central and eastern United States. This issue has arisen because the NRC sponsored LLNL to develop and implement one set of estimates and EPRI sponsored the development and implementation of another set. While the relative ranking of the hazards at the NPP sites are similar, the absolute value of the estimates differ from site to site with differences as large as an order of magnitude. These differences are significant as the NRC moves toward risk-informed regulation. An example of the significance of this difference was the role of seismic hazard estimates controlling the importance of spent fuel pool fragility in the relief sought by industry during the decommission process.

The current plan is to use the guidance developed by the Senior Seismic Hazard Analysis Committee (SSHAC), which was sponsored by NRC and DOE with EPRI. RES will implement the guidance prepared by SSHAC to recalculate seismic hazard estimates; this program will use NRC staff to conduct the seismic hazard estimates instead of using contractors. With this approach, the experience and expertise from the study will accrue to the staff rather than to the contractor.

Having a new single set of hazard estimates and an updated methodology and database will benefit NMSS, as well as NRR. The revised Part 72 makes use of the probabilistic seismic hazard method.

I am requesting that two of your staff members be assigned to work with my staff and staff from NRR on this study. Specifically, I am requesting Drs. Abou-Bakr Ibrahim and Phyllis Sobel be assigned to the project for its duration of about 30 months. The level of effort would be about 50% and 5-10%, respectively.

This request has been coordinated with you, T. Essig, and J. Schlueter by A. Murphy.

**Distribution:**

ERAB r/f, DET r/f, NMSS: T. Essig, J.Schlueter, A. Ibrahim, P. Sobel

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML021410222.wpd

OAR in ADAMS? (Y or N) Y

ADAMS ACCESSION NO.: ML021410222\_\_

TEMPLATE NO. RES- 006

Publicly Available (Y or N) Y

DATE OF RELEASE TO PUBLIC normal

SENSITIVE? N

**\*See previous concurrence**

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|--------|-------------------------|------------------------|--------------------------|---------|
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| DATE   | 05 /09 /2002            | 05 / 15 /2002          | 05/17/2002               | / /2002 |

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