



LAWRENCE LIVERMORE LABORATORY

NUCLEAR SYSTEMS SAFETY PROGRAM

September 15, 1980
EG-80-32

Mr. T. Cheng
Division of Licensing
Office of Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Review of Remaining Effort, Schedule, Budget and Possible FY 81 Work for the Site Specific Spectra Project (SSSP)

Dear Tom:

As requested by you, I am providing a brief up-date of the status and future of the SSSP. Attachment I provides a brief overview of the FY 80 effort. Tasks 1, 2, 3, 4, 7, 8 and 12 have been completed. Task 10 has been deleted.

Task 5 which is to provide a detailed comparison of the SSSP results with other studies, is completed, but the final report has not been submitted. The results of Task 5 will be included in the results report from TERA to LLNL which will be sent out before October 1, 1980. Task 6 is to up-date (including the results of FY 80 Tasks 1-5 and 8) the draft reports issued August, 1979. We (LLNL, TERA, NRC) have agreed that we will issue 5 volumes. Volume 1 is to be a brief summary and should be completed by mid-October. Volume 2 which covers the methodology we developed and Volume 3 which gives the results of expert opinion sampling were completed in early July. Volume 4 which contains spectra for the various SEP sites is being worked on and should be completed by mid-November. TERA's final input to this report will be completed and released before October 1st, and will include the results of Task 5. The contents of Volume 5 have not yet been completely defined and will require a meeting to determine just what we want to include. No completion date is set yet for this report. The feedback loop - Task 9 is well underway. We have met with the experts and the final questionnaire should go out on September 15, 1980. The final schedule for completing this effort will depend upon the length of time the bulk of the experts take to respond. It will take us about a month to

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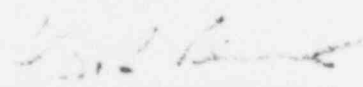
complete this task after we get back all of the responses. Past experience shows that it is difficult to set a definite schedule for the expert panel and obtain the information we need, hence we have to allow them to work at their own pace.

Task 11 - review of San Onofre is ongoing and a letter report will be completed before October 1, 1980.

We should have sufficient carryover funds to complete the above work scope. The only potential problems are report costs. These are hard to pin down and depend on how many changes NRC might want to the final report. There is no money left for additional work; hence you might want to put \$25K to \$50K in the pot for FY 81 to provide funds for us to provide assistance to NRR by performing additional sensitivity studies to help evaluate what the various SEP applicants submit. Also, local site soil column effects have not been considered at several sites. You might want us to provide assistance in evaluation of the importance of the soil column at the sites which have shallow soil profiles such as Yankee Rowe.

I hope this provides you with the information that you need. Feel free to call on me if I can provide you with any other information.

Sincerely,


Don L. Bernreuter
Project Manager
Site Specific Spectra Project

DLB:pk
Wang #2156j

Attachment

cc: H. Levin, NRC
L. Reiter, NRC
G. E. Cummings, LLNL

ATTACHMENT I

1. Program Objective and Description

Our FY 80 tasks are designed primarily to provide NRC with an improved basis for licensing application of the SSSP results from FY 79, except for Task 12 which is to assist in the show cause proceedings for GETR.

Task 1

Provide a letter response to the Peer review comments received thus far.

Task 2

To assess the effect of taking a large background area and allowing the number of earthquakes assigned to the background to be a function of the credibilities we will perform extensive sensitivity analyses on the credibilities each expert assigned to the various zones. We will perform this analysis for at least four mutually agreed upon sites and for all the synthesis results. The sites will be chosen so that we can extrapolate the results to the other sites. We will discuss the general implications of the results for all sites.

Task 3

We will perform sensitivity analyses on the attenuation model. The analyses will address:

- o The dispersion coefficient;
- o The long period spectral ordinates; and
- o The treatment of soil and rock sites.

This effort will entail some attenuation model refinement in the above areas and then sensitivity analyses on the effects of this refinement on alternative parameter values. We will perform these analyses on at least four mutually agreed upon sites, for all experts, and for at least two alternative attenuation models. Both the individual experts results as well as the synthesis results will be reported.

Task 4

We will perform extensive sensitivity analyses on the effect of alternative uncertainty models in the seismicity model. The uncertainty that is presently included is in the b-value, and the maximum earthquake. We will exercise these models for at least two sites and all experts, and will report both the individual expert results along with the synthesis results.

Task 5

Provide a detailed comparison of SSSP results with other Eastern U.S. hazard analyses.

Task 6

Integrate above letter reports into existing SSSP reports, and finalize the reports.

Task 7

Act as an interface between the NRC/LLL and Dr. Newmark. Provide specific results or analyses and discuss options for acceptance criteria.

Task 8

Organize an expert panel on attenuation in the Eastern U.S. and conduct a seminar on attenuation. Implement selected recommendations.

Task 9

Organize and conduct a "Delphi"-type feedback to the SSSP experts. Develop a short questionnaire covering the outstanding significant issues resulting from the feedback. Encode and summarize the responses.

Task 10

Revise results based on feedback, improved attenuation and sensitivity results. Redigitize source boundaries, resort earthquakes, use improved background model. Perform analysis on all sites, all experts, and all frequencies. Develop synthesis results and summarize in a report.

Task 11

Review reports on development of site specific spectra for San Onofre Unit I as required.

Task 12

Assist NRC review General Electric Company's probability studies for the GETR site and provide other assistance for the show cause proceedings.

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