

MEMORANDUM FOR: Mary Jo Mattia, Chief  
Administrative Contracts Branch  
Division of Contracts

AUG 4 1960

FROM: Director, Division of Engineering

(This form is designed to accommodate varying kinds of procurement requests, including small purchases, sole source actions and competitive solicitations. Inapplicable items or those for which you have not developed information should be left blank. In such cases, project officer should contact Division of Contracts' personnel for appropriate guidance.)

Part I - Project Data

1. It is requested that the Division of Contracts take the following action:

- |  |  |
|--|--|
| <input type="checkbox"/> Issue a Request for Proposal (RFP)      | <input type="checkbox"/> Execute a Modification to |
| <input type="checkbox"/> Issue a RFP to firms awarded            | Contract No. _____                                 |
| Basic Ordering Agreement   | with _____   |
| (type) _____   | Name of Person or Firm                             |
| <input type="checkbox"/> Award a contract on the basis of our    | <input type="checkbox"/> Award a contract on basis |
| acceptance of a proposal from                                    | of our acceptance of an                            |
| in response to an RFP, RFP under                                 | Unsolicited Proposal                               |
| a BOA or Interagency Agreement                                   |  |
| (IA)   |  |
| <input checked="" type="checkbox"/> Award a Sole Source Contract |  |
| to Dr. Keitti Aki  |  |
| Name of Person or Firm   |  |

2. Title of Project and brief description of work: Follow on to  
Simulation of Earthquake Ground Motions for San Onofre Nuclear  
Generating Station

841PT-4246 XA

If a modification action is requested, briefly describe nature of action:

\_\_\_\_\_  
\_\_\_\_\_

3. The level of effort required to perform this work is estimated at 25 man days  
\_\_\_\_\_ year(s) and \_\_\_\_\_ month(s) over a \_\_\_\_\_ year  
\_\_\_\_\_ 3 month period from the effective date of the contract; from

8-80 through 12-81  
month-day-year month-day-year

4. The expiration date for receipt of proposals is \_\_\_\_\_ days after  
issuance of RFP.

5. A preproposal conference is ☐ is not ☐ contemplated.

6. ☐ No classified information is anticipated.

☐ Classified information is anticipated. See NRC Form 187, attached.

7. The Technical Monitor for this requirement is Dr. Leon Reiter,  
telephone number 492-8146; the Project Officer is Dr. Robert Jackson  
telephone number 492-7972.

Part II - Funds

1. Estimated Cost: \$8000 Current FY: \$5000  
Second FY: \$3000 Third FY: \_\_\_\_\_

Funds Availability: This certifies that funds in the amount of  
\$ 5000 are available for obligation in the current budget  
or \$ \_\_\_\_\_ have been included in this year's budget

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for the subject work and/or that estimated funds in the amount of \$ 3000 have been included in next year's budget request for the work (if work is contemplated beyond this Fiscal Year).

B&R No.: 20-19-05-05 FIN No.: B-6898-0

Appropriation Symbol: 31X0200.200

*Edmund J. Sullivan Jr.*  
Signature of Certifying Officer

Part III - Duplication of Effort

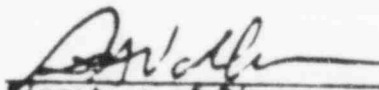
1. ☐ I certify that, based on inquiries made with other NRC offices, no unnecessary duplication of effort will result from the conduct of the subject work (less than \$100,000.00).
2. ☐ Attached are the certifications executed by each of the members of the Contract Review Board (more than \$100,000.00).
3. ☐ Contract Review Board certification requests have been forwarded to Board members for concurrence and/or comments. Completed certifications will be forwarded.

Part IV - Attachments

- ☐ Statement of Work (Attachment No.     )
- ☐ Evaluation criteria and their numerical weights (Attachment No.     )
- ☐ List of firms to be invited to submit proposals in addition to general public notification (Attachment No.     )

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- ☐ Copy of letter designating Source Evaluation Panel members  
(Attachment No. \_\_\_\_\_)
- ☐ Sole Source Justification, if applicable (Attachment No. \_\_\_\_\_)
- ☐ Unsolicited Proposal Justification, if applicable. Approval and execution of a contract with \_\_\_\_\_ on  
the basis of an unsolicited proposal is recommended. (Attachment No. \_\_\_\_\_)
- ☐ Contract Review Board Certifications (Attachment No. \_\_\_\_\_)
- ☐ Special Requirements\* (Attachment No. \_\_\_\_\_)

  
\_\_\_\_\_  
Signature of Director  
(Designating Official)

\*This pertains to instructions concerning schedules, reports, data, Government-furnished equipment, or other special requirements.

Statement of Work

"Simulation of Earthquake Ground Motions for  
San Onofre Nuclear Generating Station"

Dr. Keiiti Aki  
Department of Earth and Planetary Science  
Massachusetts Institute of Technology  
Cambridge, Massachusetts 02139

Background and Justification

In order to determine the proper level of earthquake ground motion (response spectrum) to be used in the seismic evaluation of the San Onofre Generating Station, Southern California Edison has carried out a series of state-of-the-art studies that numerically estimate this ground motion from a rupturing fault near the site. Dr. Aki was a member of the panel that reviewed these original reports for the NRC and made recommendations as to their general validity and usefulness in specifying the appropriate ground motion. Subsequent to the writing of these reports the October, 1979, Imperial Valley Earthquake occurred and yielded the most extensive set of data yet recorded in the near field of a magnitude 6.5 to 7.0 event. Southern California Edison was asked to conduct a series of studies that would attempt to further validate their numerical model and ground motion estimates by testing this model with respect to the Imperial Valley data. The original panel is being reassembled to review this new report and assess its impact upon previous evaluations.

Dr. Aki is considered as one of the foremost experts in earthquake source modeling. He has performed pioneering research in this area and has many publications on this research. He is also a consultant to the U. S. Geological Survey on source mechanisms. He is, therefore, familiar with source mechanism problems as they relate to the siting of critical facilities. He is, further, intimately knowledgeable of all the facets of the San Onofre Generating Station ground motion studies by virtue of his membership on the previous panel formed by the NRC under contract number NRR-78-184. There is an urgent need to review this state-of-the-art work in source modeling to assist the staff in avoiding any further licensing delays and coming to a definitive and defensible conclusion regarding the proper level of earthquake ground motion.

Since Dr. Aki has already devoted considerable time on this problem and since he is one of the foremost experts in this area, it would be in the best interest of the government to contract with Dr. Aki to perform this additional work requirement as part of a reassembled panel.

### Objective

The objective of this program is to obtain the assistance of Dr. Aki in evaluating the applicant's ground motion studies.

### Work Requirements

#### Task 1. Review of Report

Review the applicant's study of the 1979 Imperial Valley Earthquake with respect to general validity, validity of assumed the earthquake ground motion model and impact upon previous evaluations of ground motion studies. Prepare and submit a technical evaluation of the study.

#### Task 2. Follow-on Review

Upon completion of task 1, review and evaluate additional information submitted by the applicant in response to questions raised in the technical evaluation performed under task 1. Prepare and submit technical evaluations of additional information submitted.

#### Task 3. Participation in Meetings and Hearings.

Attend four meetings to discuss the specified ground motion level. Prepare necessary testimony or discussion material for these meetings. These meetings will be with the applicant, the NRC staff and the ACRS. Participation in the ASLB will be required to testify on related contentions.

### Level of Effort

The level of effort is estimated to be 25 man-days over a fourteen month period of performance.

### Meetings and Travel

It is estimated that Dr. Aki will be required to participate in one review meeting at the plants site in California, one review meeting in Bethesda, an ACRS meeting in Washington, D.C. and the ASLB hearing at the site.

### Reporting Requirements

Upon completion of tasks 1 and 2 Dr. Aki will submit his technical evaluations in letter report form to Dr. Leon Reiter, Division of Engineering, NRR, NRC, with copies to Dr. Robert Jackson and Mr. James P. Knight, also of the Division of Engineering, NRR, NRC.

### NRC Furnished Materials

A copy of the applicant's study will be provided under separate cover.



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- ☐ Copy of letter designating Source Evaluation Panel members  
(Attachment No. \_\_\_\_\_)
- ☐ Sole Source Justification, if applicable (Attachment No. \_\_\_\_\_)
- ☐ Unsolicited Proposal Justification, if applicable. Approval and execution of a contract with \_\_\_\_\_ on  
Name of Proposer  
the basis of an unsolicited proposal is recommended. (Attachment No. \_\_\_\_\_)
- ☐ Contract Review Board Certifications (Attachment No. \_\_\_\_\_)
- ☐ Special Requirements\* (Attachment No. \_\_\_\_\_)

Original signed by:  
Richard H. Vollmer

\_\_\_\_\_  
Signature of Director  
(Designating Official)

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J. Leonard  
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Concurees:

\*This pertains to instructions concerning schedules, reports, data, Government-furnished equipment, or other special requirements.

OFFICE	DE:G5B	DE:G5B	DE:AD/C&SE	NRR	NRR	NRR		
Surname	L. J. In	R. Jackson	J. Knight	E. Sullivan	P. Triplett	R. Votter		
Date	7/1/80	7/1/80	7/1/80	7/15/80	7/1/80	7/1/80		