



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

JUN 21 2001

Energy Research, Inc.  
ATTN: Dr. Mohsen Khatib-Rahbar, President  
P. O. Box 2034  
Rockville, MD 20847

Dear Dr. Khatib-Rahbar:

Subject: Contract No. NRC-04-97-040, Task Order No. 5 Entitled,  
"Independent Evaluations of Severe Accident Research"

In accordance with Section G.5, Task Order Procedures, of the subject contract, this letter definitizes Task Order No. 5. This effort shall be performed in accordance with the enclosed Statement of Work.

Task Order No. 5 shall be in effect from the date of award through twelve (12) months, with a total cost ceiling of \$66,353.86. The amount of \$62,012.95 represents the total estimated reimbursable costs and the amount of \$4,340.91 represents the fixed fee.

APPN No.: 31X0200.160  
BOC No.: 252A  
RES Identifier: RES-C01-427  
B&R No.: 16060401710 (\$42,000.00)  
JOB CODE: F6446  
RES Identifier: RES-C01-428  
B&R No.: 16060401710 (\$24,353.86)  
JOB CODE: F6447  
Total Obligated Amount: \$66,353.86

The Contractor agrees that such personnel shall not be used for the effort under the task order without compliance with Contract Clause H.1, Key Personnel.

The issuance of this task order does not amend any terms or conditions of the subject contract.

Your contacts during the course of this task order are:

Technical Matters: Chester Gingrich, Project Officer  
(301) 415-6780

Contractual Matters: Paulette Smith, Contract Specialist  
(301) 415-6594

Please indicate your acceptance of this Task Order No. 4 by having an official, authorized to bind your organization, execute three copies of this document in the space provided and return two copies to the above Contract Administrator. You should retain the third copy for your records.

Sincerely,

  
Mary Place, Contracting Officer  
Contract Management Branch 1  
Division of Contracts and  
Property Management  
Office of Administration

Enclosure:  
Statement of Work

ACCEPTED:

 \* Please see Modification #1 for revised statement of work

NAME Mohsen Khatib-Rahbar

President

TITLE

June 21, 2001

DATE

**Contract NRC-04-097-040**

**TASK ORDER 5: DIRECT CONTAINMENT HEATING (DCH) BWR ANALYSIS**

1. BACKGROUND

The USNRC has done extensive research of Direct Containment Heating (DCH) with regard to PWR reactor plants. However, no work has been done on this issue with regard to BWR plants. Some of the risk dominant sequences as determined by IPE (individual plant examination) reviews for BWR plants are related to failure to depressurize the reactor coolant system early in the accident progression (prior to melt formation and vessel failure.) Therefore, the conditional containment failure probability of BWR containments due to DCH should be determined to ensure that the associated risk is acceptable.

2. OBJECTIVE

To review PWR DCH tests and analyses and apply the same analyses techniques to determine the conditional containment failure probability of BWR with Mark I, II, and III containments.

3. WORK REQUIREMENTS

The contractor should review the tests and analyses performed to address the direct containment heating issue for PWR plants and apply the insights and analyses techniques as appropriate to assess the conditional containment failure probability of BWR with Mark I, II, and III containment. The contractor should submit a letter report for NRC review. Upon incorporating NRC comments, the contractor should conduct a peer review of the report, preferably using members from the original DCH peer review panel to assess the adequacy and robustness of the finding. The contractor shall address all peer reviewers comments, and when appropriate incorporate changes into a final version of the report to be submitted to the NRC.

4. REPORTING REQUIREMENTS

A letter report documenting the analyses and conclusions regarding the conditional containment failure probability due to DCH in BWRs. A final report incorporating peer reviewer and USNRC comments.

5. PERIOD OF PERFORMANCE

12 months from the effective date of this task order

6. GOVERNMENT FURNISHED MATERIAL

None

7. TRAVEL

No travel is required.