



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

January 18, 2002

Purdue Research Foundation  
ATTN: Mr. Thomas B. Wright  
1063 Hovde Hall  
West Lafayette, IN 47907-1063

SUBJECT: MODIFICATION NO. 7 TO TASK ORDER NO. 9  
UNDER CONTRACT NO. NRC-04-97-046

Dear Mr. Wright:

This letter definitizes Modification No. 7 to Task Order No. 9. Accordingly, this task order modification shall be performed in accordance with the attached Statement of Work and in accordance with the contractor's technical proposal dated January 11, 2002. This modification increases the ceiling and obligated amounts by \$80,000 from \$250,604 to \$330,604, and extends the period of performance through November 30, 2002. The effective date of this modification is January 16, 2002. Accordingly, the task order is hereby modified as follows:

The total estimated cost for full performance of Task Order #9 is \$330,604 with a period of performance of August 4, 1999 through November 30, 2002. Funds in the amount of \$80,000 are being obligated for performance of this modification which hereby increases the obligated amount. The Contractor shall not incur costs for this task order which exceed the cumulative obligated amount of \$330,604.

Accounting Data for Task Order No. 9, Modification No. 7, are as follows:

B&R No.:	26015110205
APPN No.:	31X0200.260
Job Code:	W6749
BOC:	252A
RES ID:	RES-C02-354
Obligated Amount of this Action:	\$80,000

A summary of obligations under this task order, from the date of award through this modification are provided below:

Total FY 99 NRC Obligations:	\$ 40,000
Total FY 00 NRC Obligations:	\$120,604
Total FY 01 NRC Obligations:	\$ 90,000
Total FY 02 NRC Obligations:	\$ 80,000
Cumulative Obligations:	\$330,604

This modification obligates FY 02 funds in the amount of \$80,000

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NRC-04-97-046  
Task Order No. 9  
Modification No. 7

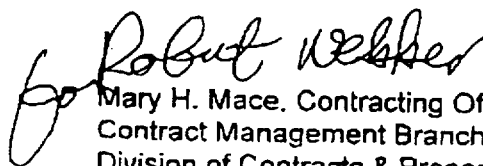
All other terms and conditions remain unchanged.

Please indicate your acceptance of this task order modification by having an official, authorized to bind your organization, execute three(3) copies of this document in the space provided and return two(2) copies to Deborah Neff, Contract Specialist, at the address listed below. You should retain the third copy for your records.

U.S. Nuclear Regulatory Commission  
Division of Contracts & Property Management  
Mail Stop T-7-I-2  
Washington, DC 20555

If you have any questions concerning this action, please contact Ms. Neff at 301-415-8160.

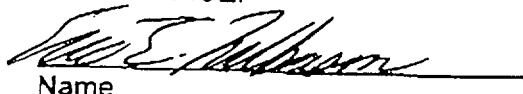
Sincerely,



Mary H. Mace, Contracting Officer  
Contract Management Branch No. 1  
Division of Contracts & Property Management  
Office of Administration

Enclosure:  
As stated

ACCEPTANCE:

  
Name

Eric E. Fulkerson  
Sr. Contract Manager

Title

JAN 24 2002  
Date

Modification (No. 7) to The Statement of Work for Task Order #9, "BWR Model Development and Assessment," under Contract # NRC-04-97-046 and Job Code W6749, "Thermal-Hydraulic Research"

**Additional Work Requirements (1/16/02 - 11/30/02)**

Revise Task 5 and incorporate new Tasks 10 through 15.

**Task 5. Provide Technical Assistance to NRC**

This task provides technical assistance to NRC by performing additional calculations, making presentations, reviewing technical reports, providing references, and attending meetings as requested by the NRC Technical Monitor.

Estimated Level of Effort: 0.5 staff-month (for this performance period)  
Estimated Completion Date: November 30, 2002 (new date)

**Task 10. Analyze CISE Adiabatic Tube Test R-291 Using TRAC-M and TRAC-B**

This task prepares TRAC-M and TRAC-B input decks for CISE Adiabatic Tube Test R-291. Perform TRAC-M and TRAC-B calculations. Compare the TRAC-M results with the TRAC-B results. Also compare the code results with data. Prepare a letter report in both text and electronic format. Prepare the input decks and the test data assessed in electronic format.

Estimated Level of Effort: 1 staff-month  
Estimated Completion date: September 30, 2002

**Task 11. Analyze THETIS Boil-Off Tests Using RELAP5 and TRAC-M**

Use SNAP to prepare RELAP5 input decks for THETIS Boil-Off Tests 561-2, 551-2, 553-4, 555-6, and 557-8. Perform RELAP5 calculations for these tests. Use SNAP to convert the RELAP5 input decks for TRAC-M, and perform TRAC-M calculations for the tests. (SNAP is expected to be able to convert RELAP5 input decks to TRAC-M input decks by mid-2002.) Compare the results of these two codes. Also compare the code results with THETIS data. Prepare a letter report in both text and electronic format. Prepare the input decks and the test data assessed in electronic format.

Estimated Level of Effort: 3.5 staff-months  
Estimated Completion date: November 30, 2002

**Task 12. Use RELAP5, TRAC-B, and TRAC-M to Analyze Four THTF Tests**

Based on the input decks prepared under Tasks 6 and 7 (using SNAP if necessary), perform RELAP5, TRAC-B, and TRAC-M calculations for THTF Tests 3.07.9B, 3.07.9H, 3.07.9N, and 3.07.9W. Compare the results of these three codes. Also compare the code results with THTF data. Prepare a letter report in both text and electronic format. Prepare the input decks and the test data assessed in electronic format.

1 800 533-3322  
1 800 638-5567

Estimated Level of Effort: 2 staff-months  
Estimated Completion Date: November 30, 2002

**k 13. Use TRAC-B and TRAC-M to Analyze Three THTF Tests**

are TRAC-B and TRAC-M input decks for THTF Tests 3.03.6AR, 3.06.6B, and 3.08.6C. Form TRAC-B and TRAC-M calculations for these tests. Compare the results of these two tests. Also compare the code results and with THTF data. Prepare a letter report in both text and electronic format. Prepare the input decks and the test data assessed in electronic format.

Estimated Level of Effort: 1.5 staff-months  
Estimated Completion Date: November 30, 2002

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**14. Recalculate THTF Boil-Off Tests**

This task is an extension of Task 1. Use the latest TRAC-M to calculate two groups of THTF tests: (1) Tests 3.09.10j, 3.09.10k, 3.09.10l, and 3.09.10m, and (2) Tests 3.09.10n, 3.09.10o, and 3.09.10p. (The tests in the first group were calculated in Task 1 using an earlier version of TRAC-M.) Compare the calculations for the second group of the tests with THTF data. Compare the latest TRAC-M calculations for both groups of the tests to the calculations using TRAC-B and RELAP5. Prepare a letter report in both text and electronic format. Prepare the input decks and the test data assessed in electronic format.

Estimated Level of Effort: 1.5 staff-months  
Estimated Completion Date: September 30, 2002

**Task 15. Recalculate FRIGG Subcooled Tests**

This task is an extension of Task 3. Use the latest TRAC-M to calculate two groups of FRIGG tests: (1) Tests 36 313-016, 36 313-020, 36 313-113, 36 313-114, 36 313-120, 36 313-125, 36 313-148, and (2) Tests 413-113, 413-116, 413-120, 413-125, 413-147, 413-148, and 613-118. (The tests in the first group were calculated in Task 3 using an earlier version of TRAC-M.) Compare the calculations for the second group of the tests with FRIGG data. Compare the latest TRAC-M calculations for both groups of the tests to the calculations using TRAC-B and RELAP5. Prepare a letter report in both text and electronic format. Prepare the input decks and the test data assessed in electronic format.

Estimated Level of Effort: 2 staff-months  
Estimated Completion Date: September 30, 2002

**MEETINGS AND TRAVEL**

The contractor is expected to make two one-day trips to the NRC office in Rockville, Maryland. In addition, the contractor is allowed to attend a national technical conference for a person up to three days. However, any travel must be approved in advance by the NRC Technical Monitor.