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

January 15, 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. 4
UNDER CONTRACT NO. NRC-04-97-046

Dear Mr. Wright:

This letter definitizes Modification No. 7 to Task Order No. 7. 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 8, 2002, which increases the ceiling amount by $149,998 from $734,372 to $884,370, and the obligated amount by $149,998 from $683,991.68 to $833,989.68. The task order is hereby modified as follows:

The total estimated cost for full performance of Task Order #10 is $884,370 with a period of performance of September 30, 1997 through November 30, 2002. Funds in the amount of $149,998 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 $833,989.68.

Accounting Data for Task Order No. 4, Modification No. 7, are as follows:

B&R No.:	26015110205
APPN No.:	31X0200.260
Job Code:	W6749
BOC:	252A
RES ID:	RES-C02-345
Obligated Amount of this Action:	$149,998

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

Total FY 97 NRC Obligations:	$230,591.68
Total FY 98 NRC Obligations:	$ 53,400.00
Total FY 99 NRC Obligations:	$100,000.00
Total FY 00 NRC Obligations:	$150,000.00
Total FY 01 NRC Obligations:	$150,000.00
Total FY 02 NRC Obligations:	$149,998.00
Cumulative Obligations:	$833,989.68

This modification obligates FY 02 funds in the amount of $149,998

ADM02

TEMPLATE-ADM001

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
Douglas W. Sabel, Director
University Contracting Group

Title

JAN 16 2002

Date

Modification (No. 7) to the Statement of Work for Task Order #4, "Phase Separation in Tees," under Contract No. NRC-04-97-046 and Job Code W6749, "Thermal-Hydraulic Research"

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

Revise Task 11 and incorporate new Tasks 15 through 18 to the existing SOW.

Task 11. Provide Technical Support

This task provides technical support in terms of performing additional experiments, making presentations, reviewing technical reports, and attending meetings as requested by the NRC Technical Monitor.

Estimate Level of Effort: 1 staff-month (for this performance period)
Estimated Completion Date: November 30, 2002 (new date)

Task 15. Literature Survey

This task revises a previously performed literature survey including the discussion of pertinent data. Comments received from the ACRS Thermal-Hydraulic Phenomena Subcommittee should be included and addressed. New information since the previous literature survey should also be included. Prepare a letter report to NRC for review and comments.

Estimated Level of Effort: 1.5 staff-months
Estimated Completion Date: March 31, 2002

Task 16. Investigation of System Oscillations

Previous tests showed that system oscillations could dominate the flow patterns in the region between the branch line and the steam generator inlet plenum. This task determines the conditions for flow oscillations to occur and develops a rationale to extend the ATLATS data (where oscillations were present) to full scale. The task reviews the existing test data and develops new scaling relations for the facility to account for system induced oscillations. The task may involve conducting experiments to identify and characterize the system oscillations and to study the effect of system induced oscillations on liquid entrainment to a tee. Prepare a letter report to document the findings.

Estimate Level of Effort: 9 staff-months
Estimate Completion date: July 31, 2002

Task 17. Model Development

This task continues the model development but with an emphasis on using the observed flow pattern near the branch line. The model should not necessarily be a simple extension of horizontal stratified onset and branch line quality relations. Instead, it should include local interfacial shear and surface tension effects. The task may involve conducting experiments to characterize system oscillations and the low fluid qualities near the branch line entrance.

Estimated Level of Effort: 5 staff-months
Estimated Completion Date: September 30, 2002

Task 18. Documentation

Complete a NUREG/CR report to discuss and summarize experimental results and model development. Provide electronically to NRC all the test data in the NRC databank format. Prepare a draft report by October 10, 2002, and send it to NRC for review and comments. Complete the final NUREG/CR report by November 15, 2002.

Estimated Level of Effort: 4 staff-months
Estimated Completion Date: November 15, 2002

Meetings and Travel:

The contractor is expected to attend two meetings at NRC in Rockville, Maryland, and each meeting will involve up to two persons for a day. In addition, the contractor is allowed to attend and make presentations at two national technical conferences for up to two persons. However, any travel must be approved in advance by the NRC Technical Monitor.