

SEP 25 2002

MODIFICATION NO. 14 TO COOPERATIVE AGREEMENT NO. NRC-04-98-051

BETWEEN

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

AND THE

U.S. NUCLEAR REGULATORY COMMISSION

The purpose of this modification is to (1) Add additional work as described in the attached proposal (2) Provide incremental funds in the amount of \$80,010.00 thereby increasing the obligated and ceiling amount by \$80,010.00 from \$1,124,932.00 to \$1,204,942.00 and (3) extend the period of performance through August 31, 2003. Accordingly, the following changes are hereby made:

1. In Block No. 13, Accounting & Appropriation Data, the following is added to the information previously found there:

*APPN. NO: 31X0200.260
B&R NO: 26015110205
Job Code: K6987
BOC NO: 4110
Amount Obligated: \$ 80,010.00
RES ID NO: RES-C02-486

2. Block No. 15, NRC Obligation of Funds, is deleted in its entirety and replaced with the following:

This Cooperative Agreement Action	\$ <u>80,010.00</u>
Previous Obligation	\$ <u>1,124,932.00</u>
Total	\$ <u>1,204,942.00</u>


3. Block No. 16, Total Funding Agreement, is deleted in its entirety and replaced with the following:

NRC:	\$ <u>1,204,942.00</u>
Cooperator:	\$ <u>- 0 -</u>
Total:	\$ <u>1,204,942.00</u>

All other terms and conditions remain the same and in full force and effect.

EXECUTED:

UNIVERSITY OF CALIFORNIA @
SANTA BARBARA

BY: 

NAME: Lore L. Dobler

TITLE: Sponsored Projects Officer

DATE: SEP 25 2002

UNITED STATES OF AMERICA
U.S. NUCLEAR REGULATORY
COMMISSION

BY: 

NAME: Robert Webber

TITLE: Contracting Officer

DATE: 9/24/02

UCSB Proposal Number _____

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
c/o University of California, Santa Barbara
Santa Barbara, California 93106-2050

FEDERAL EMPLOYER'S ID #95-6006145
CONGRESSIONAL DISTRICT: 23

I. PROPOSAL SUBMITTED TO: Nuclear Regulatory Commission

II. TITLE OF PROPOSAL: CRSS/UCSB Participation in Serena

If Renewal, Previous Award No.: _____

III. PROJECT PERIOD:
9/1/2002 8/31/2003
From Through

IV. SUPPORT REQUESTED:
\$80,010 \$80,010
Total Project Amount Total First Year

V. PRINCIPAL INVESTIGATOR:
T.G. Theofanous
Name
Professor, Director
Title
473583952
Social Security No.
(805) 893-4900 (805) 893-4938
Office Telephone Alternate Telephone

VI. CO-PRINCIPAL INVESTIGATOR:

Name

Title

Social Security No.

Office Telephone Alternate Telephone

VII. A. RESEARCH INVOLVING HUMAN SUBJECTS
 yes no Approved _____
Date
Pending Review

B. RESEARCH INVOLVING ANIMAL SUBJECTS
 yes no Approved _____
Date
Pending Review

VIII. ENDORSEMENTS:

Principal Investigator
Signature: [Signature]
Name: T.G. Theofanous
Title: Professor/Director
Department/
ORU/Oth: Chemical Engineering/CRSS

Department Head
or ORU Director
[Signature]
David Pine
Chairman
Chemical Engineering

Authorized
UCSB Official
[Signature]
Lore L. Dobler
Sponsored Projects Officer
OFFICE OF RESEARCH

Authorized University negotiator & Officer
to whom award documents should be mailed Contract and Grant Officer
Office of Research
Room 3227, Cheadle Hall
University of California, Santa Barbara
Santa Barbara, CA 93106-2050
Telephone No.: (805) 893-5530
Fax No.. (805) 893-2611

Date mailed by AUG 19 2002

CRSS/UCSB PARTICIPATION IN SERENA

Work Scope

The purpose of this project is to participate in the SERENA program, a collaborative effort organized under the auspices of CSNI/OECD. The program began January 1, 2002 and is scheduled to be completed by May 2005. At this time four integral tests, 2 on premixing and 2 on propagation have been defined for calculation and study. It is expected that as the premixing study is being completed by end of fiscal year 2003, the propagation studies will commence. The present UCSB project is defined for this period of time that is extending to the end of FY'03.

The UCSB project will include the use of the PM-ALPHA.L and ESPOSE.m codes, for premixing and propagation respectively, as well as the MuSiC code for specific (narrowly-defined) benchmark purposes. The main task will be to compute as realistically as possible the 4 experimental tests defined by the SERENA program.

In addition, however, the UCSB work will include extensive parametric and sensitivity studies, calculations of any other tests as appropriate, as well as consideration of the results obtained by the other participants, and further calculations inspired thereof.

- Deliverables.**
1. A progress report and digital file containing the results of our premixing Calculation, (complying with SERENA requirements).
 2. A final report containing our understanding, conclusions, and recommendations, from the SERENA premixing study.
 3. A preliminary progress report containing the results of our explosion calculations.

Deadlines. All deliverables will be made in accordance with the dates specified in the SERENA program. Deliverable 2 will be made 30 days after the completion of the final joint report on the premixing exercise.

Budget Explanation. The work will be computational / analytical; hence the budget involves only salaries, a modest amount for computing resources, and a rough estimate for one-person trip to the NRC Headquarters, and one to Overseas.

AGENCY: NRC
 TITLE: CRSS/UCSB PARTICIPATION IN SERENA
 P.I.: T. G. Theofanous
 PERIOD: September 1, 2002 - August 31, 2003

A. SALARIES (Actual)				
Theofanous, T.G. (PI)				
1/9 Summer	100%	16,592.00 /mo	\$	16,592
Yuen, Walter				
2/9 Summer	100%	11,644.00 /mo	\$	23,288
Nourgaliev, R. Asst. Adjunct Professor				
1.0 mo @	85%	6,570.50 /mo	\$	5,585
Dinh, N., Assoc. Adjunct Professor				
1.0 mo @	100%	7,259.00 /mo	\$	7,259
SALARIES TOTAL				\$ 52,724
B. FRINGE BENEFITS /mo @				
Theofanous, T.G. (PI)				
16592 /mo @	3%		\$	498
Yuen, Walter (PI)				
23288 /mo @	3%		\$	699
Nourgaliev, R. Asst. Adjunct Professor				
5585 /mo @	17%		\$	949
Dinh, N., Assoc. Adjunct Professor				
7259 /mo @	17%			1,234
FRINGE BENEFITS TOTAL				\$ 3,380
C. Supplies and Expenses				
Computer Usage	4200.00 hours @	0.88 per hour	\$	3,696
				\$ 3,696
D. Travel Expenses				
	3700.00		\$	3,700

TOTAL DIRECT COSTS:	63,500
MODIFIED TOTAL DIRECT COSTS:	63,500
INDIRECT COSTS* 26% (of Modified Direct Costs)	16,510

TOTAL PROJECT COSTS	\$ 80,010
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