

JAN 23 1985

Distribution

NRR Contract file (T. DiGaloma)

RRAB Rdg

~~EChow~~

Chow CHRON

ABuslik

ATHadani

MFarr

Frowsome

AD/T Rdg

TSpeis

DST CHRON

JHalvorsen

VZeoli, ORM

DDandois, ORM

ZRosztoczy

Mr. Gregory J. Ogeka, Chief
Administrative Branch
Brookhaven Area Office
Building 464
Upton, NY 11973

Dear Mr. Ogeka:

Subject: BNL Technical Assistance to the Division of Safety Technology
NRR, NRC, "Review of Probabilistic Risk Assessment for the
Shoreham Nuclear Power Plant" (FIN A-3740)

The enclosed NRC Form 173, Standard Order for DOE Work, is hereby submitted
in accordance with Section III.B.2 of the DOE/NRC Memorandum of Understanding
dated February 24, 1978.

Funding authorization in the amount of \$50,000 to immediately begin work on
the subject project was provided to you on September 6, 1983, \$120,000 on
December 6, 1983, \$100,000 on May 31, 1984, and \$14,000 was provided on
September 17, 1984. The purpose of this letter is to modify your proposal,
dated October 4, 1983, and to request within 30 days a revised NRC Form 189
without attachments reflecting these changes and the changes indicated by
Work Order 20-84-455. Please submit the NRC Form 189 to:

Ms. Jayne Halvorsen, Program Assistant
Division of Safety Technology, NRR
U.S. Nuclear Regulatory Commission
Washington, DC 20555

If you have any questions concerning the acceptance of this order, please
contact Ms. J. Halvorsen on FTS 492-7932.

Sincerely,

B507130412 B50426
PDR FOIA
BELAIRB5-199 PDR

for Themis P. Speis, Director
Division of Safety Technology
Office of Nuclear Reactor Regulation

Enclosure: NRC Form 173

cc: R. Barber, HQ-DOE
H. C. Grahn, BNL
H. J. Rauch, DOE-CHOO
A. Romano, BNL
W. Kato, BNL

AD/T: DST
MFarr
12/24/84

OFFICE	RRAB: DST	RRAB: DST	RRAB: DST	AD/T: DST	PA: DST	NRR	DST
SURNAME	EChow ml	ABuslik	ATHadani	Frowsome	JHalvorsen	TDiGaloma	TSpeis
DATE	12/24/84	12/24/84	12/24/84	12/24/84	1/2/85	1/22/85	1/22/85

NRC FORM 173
(1-84)

U.S. NUCLEAR REGULATORY COMMISSION

ORDER NUMBER

20-85-191

STANDARD ORDER FOR DOE WORK

DATE

ISSUED TO: (DOE Office)

Brookhaven Area Office

ISSUED BY: (NRC Office)

Office of Nuclear Reactor
Regulation, DST

ACCOUNTING CITATION

APPROPRIATION SYMBOL

31X0200.204

B&R NUMBER

20-19-40-41-5

FIN NUMBER

A-3740-4

PERFORMING ORGANIZATION AND LOCATION

Brookhaven National Laboratory
Upton, New York

WORK PERIOD - THIS ORDER

FIXED ☒

ESTIMATED ☐

FROM:

9/13/83

TO:

12/31/85

FIN TITLE

Review of PRA for the Shoreham Nuclear Power Plant

OBLIGATION AVAILABILITY PROVIDED BY:

A. THIS ORDER

\$ -0-

B. TOTAL OF ORDERS PLACED PRIOR TO THIS DATE WITH THE PERFORMING ORGANIZATION UNDER THE SAME "APPROPRIATION SYMBOL" AND THE FIRST FOUR DIGITS OF THE "B&R NUMBER" CITED ABOVE.

\$8,047,301.65

C. TOTAL ORDERS TO DATE

(TOTAL A & B)

\$8,047,301.65

D. AMOUNT INCLUDED IN "C" APPLICABLE TO THE "FIN NUMBER" CITED IN THIS ORDER.

\$234,000

FINANCIAL FLEXIBILITY:

- ☒ FUNDS WILL NOT BE REPROGRAMMED BETWEEN FINs. LINE D CONSTITUTES A LIMITATION ON OBLIGATIONS AUTHORIZED
☐ FUNDS MAY BE REPROGRAMMED NOT TO EXCEED $\pm 10\%$ OF FIN LEVEL UP TO \$50K. LINE C CONSTITUTES A LIMITATION ON OBLIGATIONS AUTHORIZED.

STANDARD TERMS AND CONDITIONS (see NRC Manual Chapter 1102, Appendix Part 4) ARE PART OF THIS ORDER UNLESS OTHERWISE NOTED

ATTACHMENTS:

THE FOLLOWING ATTACHMENTS ARE HEREBY MADE A PART OF THIS ORDER:

- ☐ STATEMENT OF WORK
☐ ADDITIONAL TERMS AND CONDITIONS
☐ OTHER

- ☒ FEE RECOVERABLE WORK
☐ NON-FEE RECOVERABLE WORK

SECURITY:

- ☐ WORK ON THIS ORDER INVOLVES CLASSIFIED INFORMATION. NRC FORM 187 IS ATTACHED
☐ WORK ON THIS ORDER INVOLVES UNCLASSIFIED SAFEGUARDS, PROPRIETARY, OR OTHER SENSITIVE INFORMATION
☒ WORK ON THIS ORDER IS UNCLASSIFIED AND NOT SENSITIVE

REMARKS (Reference the proposal by number and date, and indicate if the attached statement of work modifies the DOE proposal)

This order modifies the BNL proposal dated October 4, 1983 and requests a revised NRC Form 189 without attachments which reflects these changes and those of Work Order 20-84-455. Submit the Form 189 to J. Halvorsen, DST/NRR and M. Kaltman, PPAS/NRR.

After acceptance, please send to the NRC Office of Resource Management, ATTN: D. Dandois, and provide a copy to the Office of Nuclear Reactor Regulation, ATTN: K. McGrath.

ISSUING AUTHORITY

ACCEPTING ORGANIZATION

SIGNATURE

Themis P. Speis, Director

SIGNATURE

TITLE

Division of Safety Technology

TITLE

DATE

Modification to FIN A-3740

1. Add Task 4

Estimated Level of Effort
Estimated Completion Date

1.5 staff months
3 days after last of
applicable ACRS meetings

Provide support to the staff for
meeting with the ACRS on the review
of the Shoreham PRA for related areas.

12/31/85*

*Due date subject to revision - meetings to be scheduled

2. Revise Meetings and Travel to read as follows:

- ° Three individuals may attend two 1-day meetings in Washington, DC*
to support the staff in its interactions with the ACRS on the
Shoreham PRA.

*Meeting location subject to change

3. Revise Period of Performance as follows:

Completion date:

December 31, 1985



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

3
2

JAN 23 1985

Mr. Gregory J. Ogeka, Chief
Administrative Branch
Brookhaven Area Office
Building 464
Upton, NY 11973

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Division of Safety Technology, NRR
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Washington, DC 20555

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Themis P. Speis
to Themis P. Speis, Director
Division of Safety Technology
Office of Nuclear Reactor Regulation

Enclosure: NRC Form 173

cc: R. Barber, HQ-DOE
H. C. Grahn, BNL
H. J. Rauch, DOE-CHOO
~~Benano, BNL~~
W. Kato, BNL

20-85-191

STANDARD ORDER FOR DOE WORK

DATE

JAN 23 1985

ISSUED TO: (DOE Office)

Brookhaven Area Office

ISSUED BY: (NRC Office)

Office of Nuclear Reactor
Regulation, DST

ACCOUNTING CITATION

APPROPRIATION SYMBOL

31X0200.204

B&R NUMBER

20-19-40-41-5

FIN NUMBER

A-3740-4

PERFORMING ORGANIZATION AND LOCATION

Brookhaven National Laboratory
Upton, New York

WORK PERIOD - THIS ORDER

FIXED ☒ESTIMATED ☐

FROM:

9/13/83

TO:

12/31/85

FIN TITLE

Review of PRA for the Shoreham Nuclear Power Plant

OBLIGATION AVAILABILITY PROVIDED BY:

A. THIS ORDER

\$ -0-

B. TOTAL OF ORDERS PLACED PRIOR TO THIS DATE WITH THE PERFORMING ORGANIZATION UNDER THE SAME "APPROPRIATION SYMBOL" AND THE FIRST FOUR DIGITS OF THE "B&P NUMBER" CITED ABOVE.

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(TOTAL A & B)

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ACCEPTING ORGANIZATION

SIGNATURE

Themis P. Speis, Director

SIGNATURE

TITLE

Division of Safety Technology

TITLE

DATE

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Estimated Completion Date

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*Meeting location subject to change

3. Revise Period of Performance as follows.

Completion date:

December 31, 1985

23

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.

Upton, Long Island, New York 11973

(516) 282-3317
FTS 666

March 1, 1985

Office of the Director

Mr. David Schweller, Manager
Brookhaven Area Office
U. S. Department of Energy
Upton, New York 11973

Dear Mr. Schweller:

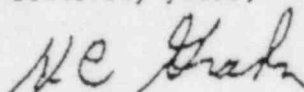
Enclosed is one copy of a proposal without attachments to the Nuclear Regulatory Commission entitled, "Review of Probabilistic Risk Assessment for the Shoreham Nuclear Power Plant," FIN A-3740, being submitted for your review and approval. The proposal is being submitted in response to a request from NRC dated February 13, 1985. Two copies have been sent to Mr. R. W. Barber, Department of Energy, one copy has been sent to Mr. M. Kaltman, Nuclear Regulatory Commission, and two copies have been sent to:

Ms. Jayne Halvorsen, Program Assistant
Division of Safety Technology
Office of Nuclear Reactor Regulation
Mail Stop 278
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

The total cost of this program is \$314,000. The funds obligated to date are \$294,000.

This proposal has been prepared in accordance with the modification to FIN attached to the aforementioned letter. If there are any questions regarding the document, please call the principal investigator or Mr. A. J. Romano, FTS 666-4024, Department Administrator for the Department of Nuclear Energy.

Sincerely yours,



H. C. Grahn
Assistant Director
for Financial Planning

Enclosures

cc: R. W. Barber (2)
J. Halvorsen (2)
M. Kaltman

Als

February 26, 1985



PROJECT AND BUDGET PROPOSAL FOR NRC WORK

☐ NEW☒ REVISION NO. 1

PROJECT TITLE			PIN NUMBER
Review of Probabilistic Risk Assessment for the Shoreham Nuclear Power Plant			A-3740
NRC OFFICE			NRC BAR NUMBER
Nuclear Reactor Regulation			20-19-40-41-5
DOE CONTRACTOR			CONTRACTOR ACCOUNT NUMBER
Associated Universities, Inc. Brookhaven National Laboratory			04197
SITE			DOE BAR NUMBER
Upton, New York 11973			
COGNIZANT PERSONNEL	ORGANIZATION	FTS PHONE NUMBER	PERIOD OF PERFORMANCE
NRC PROJECT MANAGER			STARTING DATE
E. Chow	REG/RRAB	492-4727	09/13/83
OTHER NRC TECHNICAL STAFF			COMPLETION DATE
A. Thadani	REG/RRAB	492-4705	12/31/83 FIX
DOE PROJECT MANAGER			
David Schweller	Brookhaven Area Office	666-3424	
CONTRACTOR-PROJECT MANAGER			
H. J. Kouts W. Y. Kato	BNL/DNE	666-2815 666-2444	
PRINCIPAL INVESTIGATOR(S)			
R. Youngblood	BNL/DNE	666-2363	

STAFF YEARS OF EFFORT (Round to nearest tenth of a year)				FY 1983	FY 1984	FY 1985	FY	FY
Direct Scientific/Technical				0.2	1.7	0.6		
Other Direct (Graded)				0.1	0.3	0		
TOTAL DIRECT STAFF YEARS				0.3	2.0	0.6		
COST PROPOSAL								
Direct Salaries				9	125	38		
Material and Services (Excluding ADP)				0	4	1		
ADP Support				0	4	1		
Subcontracts				0	0	0		
Travel Expenses				0	0	0		
				0	4	3		
Indirect Costs				1	19	15		
Other (Specify)				0	0	0		
General and Administrative (42.5 %)				4	61	25		
TOTAL OPERATING COST				14	217	83		
CAPITAL EQUIPMENT				0	0	0		
TOTAL PROJECT COST				14	217	83		
FY 1985				OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY
				17	22	13	1	13
MONTHLY/FORCAST EXPENSE				APRIL	MAY	JUNE	JULY	AUGUST
				2	2	2	2	3
								SEPTEMBER
								4

PROJECT AND BUDGET PROPOSAL FOR NRC WORK

A-3740

DATE
February 26, 1985

PROJECT TITLE

Review of Probabilistic Risk Assessment for the
Shoreham Nuclear Power Plant

PROPOSING ORGANIZATION

Associated Universities, Inc.
Brookhaven National Laboratory

FORECAST MILESTONE CHART Scheduled in Start - Completed (Shown in Quarter Year)
PROVIDE ESTIMATED DOLLAR COST FOR EACH TASK FOR EACH FISCAL YEAR

TASK		FY 1983				FY 1984				FY 1985				FY 1986				FY 1987			
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Task 1	SCHEDULE				▲								▲								
	COST			14K				197K				8K									
Task 2	SCHEDULE				▲	▲															
	COST							20K													
Task 3	SCHEDULE							▲				▲									
	COST											45K									
Task 4	SCHEDULE											▲					▲				
	COST											18K									
Task 5	SCHEDULE											▲	▲								
	COST											12K									
TOTAL ESTIMATED PROJECT COST				14K				217K				83K									

PROJECT DESCRIPTION: (Provide narrative descriptions of the following topics in the order listed. Attach on plain paper to this NRC Form 134. If an item is not applicable, so state.)

1. OBJECTIVE OF PROPOSED WORK
2. SUMMARY OF PRIOR EFFORTS
3. WORK TO BE PERFORMED AND EXPECTED RESULTS
4. DESCRIPTION OF ANY FOLLOW-ON EFFORTS
5. RELATIONSHIP TO OTHER PROJECTS
6. REPORTING REQUIREMENTS AND SCHEDULE
7. SUBCONTRACTOR INFORMATION
8. LIST NEW CAPITAL EQUIPMENT REQUIRED (include all ADP equipment)
9. DESCRIBE SPECIAL FACILITIES REQUIRED
10. CONFLICT OF INTEREST INFORMATION
11. EXPECTED CLASSIFICATION OR SENSITIVITY (e.g. safeguards, proprietary, other)

SEE NRC MANUAL CHAPTER 1102 FOR ADDITIONAL INFORMATION

APPROVAL AUTHORITY-SIGNATURE

Walter G. Katz

DATE

2/25/85