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BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
Upton, New York 11973

Office of the Director

(516) 345- 3332

June 29, 1977

Mr. H. Hollister, Acting Director
Office of Assistant Administrator
for Environment and Safety
U.S. Energy Research and
Development Administration
Washington, D. C. 20545

Dear Mr. Hollister:

Enclosed are ten copies of a Schedule 189 entitled, "Dose Reassessment of Populations on Rongelap and Utirik Following Exposure to Fallout from the BRAVO Incident (March 1, 1954)." This study would provide valuable information on thyroid dose and thyroid nodule incidence. Also, it will complement the proposed aerial survey for external radiation measurements.

The $50,000 required for this study is submitted as a change in the existing funding request in the Schedule 189 for Marshall Islands for FY 1978. This is pursuant to our conversation with T. F. McCraw on June 3, 1977 on the same subject.

Sincerely yours,

for V. P. Bond
Associate Director

Enclosures

cc: L. J. Deal
D. Schweller (5)

SCHEDULE 189

ADDITIONAL EXPLANATION FOR OPERATING COSTS

Brookhaven National Laboratory — Laboratory

RK-Environmental Research and Development — Program

1. Contractor: Associated Universities, Inc.
Contract No.: EY-76-C-02-0016
Task No.:

2. Project Title:
Surveillance of Facilities and Sites
Dose Reassessment for Populations on Rongelap and Utirik
Following Exposure to Fallout from the BRAVO Incident
(March 1, 1954)
189 No.:

3. Budget Activity No.: RK-01-05-02-3

4. Date Prepared: June 1977

5. Method of Reporting: Annual Report to Division of Operational Safety Standards and Compliance (SSC), Scientific Meetings and Journals

6. Working Location: Brookhaven National Laboratory

7. Person in Charge:

C. B. Meinhold

Principal Investigator:
Janakiram R. Naidu (664-4210)
Nathaniel A. Greenhouse (664-4250)

8. Project Term:
From: To:
New project to be initiated and terminated in FY 1978.

9. Man-Years:

	FY 1977	Pres. Bud. FY 1978	Rev. Req. FY 1978	FY 1979
Sci.,Res.Assoc.(Ph.D or Equiv.)	---	---	1.5	---
Prof. (B.S. or Equiv.)	---	---	---	---
Sci. & Prof. - Total	---	---	1.5	---
Others	---	---	---	---
Guests & Research Collaborators	---	---	---	---
Total	---	---	1.5	---

10. Costs (In Thousands of Dollars):

	FY 1977	Pres. Bud. FY 1978	Rev. Req. FY 1978	FY 1979
Labor (including benefits)	0	0	15	0
Mats.,Trav.,Dev. Subcont.,Spec'l. Proc.	0	0	17	0
Reactor, Accel., and/or Computer Usage	0	0	8	0
Allocated Technical Services	0	0	0	0
Gen. & Adm. Overhead	0	0	10	0
Total Research Cost	0	0	50	0
Equipment Obligations	0	0	0	0

11. Reactor Concept:

12. Materials:

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Utirik Following Exposure to Fallout from the BRAVO
Incident (March 1, 1954) RK-01-05-02-3

13. Publications: None

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14. Scope:

(a) 200 Word Summary: Incidences of thyroid nodules, benign and malignant, in the exposed populations of Utirik and Rongelap has indicated critical differences in correspondence between nodule incidence and thyroid dose for the two populations. The estimated external dose received from the time fallout began to the time of evacuation shows that the Rongelap population received an external dose (175 rads) which was about thirteen times that for the Utirik population (14 rads), and the thyroid dose was about ten times larger, whereas the incidence of thyroid nodules in the two populations were not significantly different.

A preliminary study has indicated that the critical area of investigation that could shed light is the period during fallout and evacuation for both the islands. In addition, the fact that the Utirik population returned within 120 days following evacuation, whereas the Rongelap population returned only after three years, requires that we look closely at the Utirik population in terms of a longer exposure period, both internal and external. Further studies would, therefore, have to concentrate on, the reexamination of all available data in reports issued by various agencies during that period, consultations with scientific personnel involved at that time, identifying the areas of uncertainty, and using appropriate computer programs to analyze the data. The end result will enable us to look for correlations between the incidence of thyroid nodules and the reassessed dose estimates.

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15. Relationship to Other Projects:

(a) This study will help establish dose estimates from the time of the incident to the present, and will complement the aerial survey, for external radiation measurements, over these islands, which is scheduled soon. Together they should present a reliable picture of doses received by the populations and also enable dose estimates to be projected into the future.

(b) This study will also be in close conjunction with the programs of the BNL Medical Survey Team. Continued collaboration with the University of Washington, Laboratory of Radiation Ecology, in the area of environmental radioactivity will be maintained.

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16. Technical Progress in FY 1977:

Preliminary literature search and consultations with Dr. G. A. Sondhaus, University of California, have been completed. This has resulted in defining areas of uncertainty in information and establishing the procedural steps that should be carried out towards elucidating this problem.

(See Continuation Sheet)

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17. Expected Results in FY 1978:

The literature search, consultations and the analysis of data will be completed, and will lead to comprehensive discussions and final dose assessments for both the islands. These results will be used to test the hypothesis that radiation effects can be translated into meaningful dose estimates.

18. Expected Results in FY 1979:

Program completed.

19. Description and Explanation of Major Materials, Equipment and Subcontract Items:

Major expenditures will be in the area of travel and literature search for collection of data, consultations and final analysis of the data.

20. Proposed Obligations for Related Construction Projects:

None