

U.S. DEPARTMENT OF ENERGY  
FIELD TASK PROPOSAL/AGREEMENT

1. WORK PACKAGE NUMBER	2. TASK NO.	3. REV. NO. 0	4. PROJECT NO.	5. DATE PREPARED 03/31/81	6. CONTRACTOR NUMBER HP-2-PL2 (003010)
7. TASK TITLE Dose Reassessment for Rongelap and Utirik			8. WORK PACKAGE TITLE		
9. BUDGET AND REPORTING CODE HA-02-01-01	10. TASK TERM Begin: continuing End: Open	11. CONTRACTOR NAME Associated Universities, Inc.		12. CODE (see instructions) BNL	
13. CONTRACTOR TASK MANAGER (Name: Last, First, MI) (FTS No.) Meinhold, Charles B. 666-4209			14. PRINCIPAL INVESTIGATORS (Name: Last, First, MI) Naidu, Janakiram R. - 666-4263 Lessard, Edward T. - 666-4250		
15. WORK LOCATION (See instructions): Name of facility, City, State, Zip Code				16. Is this task included in the Institutional Plan? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	17. Does this task include any management services efforts? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

18. TASK DESCRIPTION (Approach, relation to work package, in 200 words or less)

An in-depth study of information pertaining to BRAVO test fallout on Rongelap and Utirik will be made. In addition, a comprehensive fallout model will be developed using advanced analytical and computer techniques. Using this model in conjunction with dietary and living patterns prevalent during and following the exposure of March 1954, internal and external thyroid absorbed dose estimates will be made for various age and sex groupings of the populations. Two other independent approaches involving calculation of thyroid absorbed dose based on the historical soil sample analysis and based on the radioiodine analysis of the single composited urine sample reported for the Rongelap population are to be undertaken. These results coupled with the Northern Marshall Islands Radiological Survey (NMIRS) and contemporary personnel monitoring activities will provide a technically sound basis for retrospective thyroid absorbed dose estimates for the atoll populations in the Northern Marshall Islands. These estimates will be evaluated in terms of thyroid nodule incidences in these populations, and the results obtained will provide information towards correlating absorbed dose and biological effects.

BEST COPY AVAILABLE

19. CONTRACTOR TASK MANAGER

 Charles B. Meinhold

03/31/81

(Signature) (Date)

20. DETAIL ATTACHMENTS: (See instructions)

- |  |   |   |   |
|--|---|---|---|
| <input checked="" type="checkbox"/> a. Facility Requirements | <input checked="" type="checkbox"/> d. Background         | <input checked="" type="checkbox"/> g. Future accomplishments   | <input type="checkbox"/> j. Explanation of milestones |
| <input checked="" type="checkbox"/> b. Publications          | <input checked="" type="checkbox"/> e. Approach           | <input type="checkbox"/> h. Relationships to other projects     | <input type="checkbox"/> k. ZBB Detail                |
| <input checked="" type="checkbox"/> c. Purpose               | <input checked="" type="checkbox"/> f. Technical progress | <input checked="" type="checkbox"/> i. Environmental assessment | <input type="checkbox"/> l. Other (Specify):          |

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**TASK REQUIREMENTS FOR OPERATING/EQUIPMENT  
OBLIGATIONS AND COSTS**

CONTRACTOR NAME							Associated Universities, Inc.						
WORK PACKAGE NUMBER			TASK NO	REV NO	DATE PREPARED		CONTRACTOR NUMBER						
				0	03/31/81		HP-2-BL2						
21. STAFFING (in staff years)			PRIOR YEARS	FY 1981	FY 1982 - BY-1		AUT-O-R-IZED	BY-FY 1983					
				BY-2	PRESIDENT'S	REVISED							
a. SCIENTIFIC				0.2	1.2	1.2		1.2					
b. OTHER DIRECT				---	---	---		---					
c. TOTAL DIRECT				0.2	1.2	1.2		1.2					
22. OBLIGATIONS AND COSTS (in Thousands)													
a. TOTAL OBLIGATIONS				53	90	97		156					
b. TOTAL COSTS				53	90	90		140					
23. EQUIPMENT (in Thousands)													
a. EQUIPMENT OBLIGATIONS				0	0	0		0					
b. EQUIPMENT COSTS				0	0	0		0					
24. OTHER COSTS (specify)													
a.													
b.													
c.													
d.													
25. OPTIONAL FIVE-YEAR PLAN (in Thousands) Constant BY dollars				BY-1	BY-2	BY-3	BY-4	TOTAL TO COMPLETE					
a. TOTAL OPERATING OBLIGATIONS													
b. TOTAL OPERATING COSTS													
c. TOTAL EQUIPMENT OBLIGATIONS													
d. TOTAL EQUIPMENT COSTS													
26. MILESTONE SCHEDULE					PROPOSED SCHEDULE			AUTHORIZED SCHEDULE					

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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 comparisons between the incidence of thyroid nodules and the reassessed dose estimates.

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task manager, or accomplishments by measuring actual performance as compared to expected progress. All work shall be conducted in conformance with generally accepted standards for R&D and other investigative or analytic procedures, as observed by universities and large independent research facilities including Brookhaven National Laboratory (BNL).

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f. Technical Progress.

Technical Progress in FY 1980.

A report on the diet and living pattern of the Rongelapese and Utirikese has been completed. The computer simulation of fallout is being reformulated with additional data that has been acquired. Thyroid glands from the exposed Marshallese have been analyzed for Tc-99 and I-129. Approximately 50 historic soil samples have been analyzed for <sup>129</sup>I and other dosimetrically important nuclides. Preliminary dose assessment for the March 1954 exposed population has been performed by two independent methods (soil analysis and radiochemical analysis of urine) for residents of Rongelap Island, Rongelap Atoll. Additionally, a report has been completed on the dose equivalent following rehabilitation of Rongelap and Utirik Atolls after the March 1954 evacuation. This work involved determination of post return thyroid and other organ dose equivalents for individuals and population groups based on historic and contemporary whole body counting and urine bioassay results.

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Radiological Safety Program (HA-02-01-02). Continued collaboration with the University of Washington, Laboratory of Radiation Ecology, and the Battelle Pacific Northwest Laboratory will be maintained in the area of sample analysis and data interpretation.

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REPOSITORY PNNL  
COLLECTION Marshall Islands  
BOX No. 56 88  
FOLDER Marshall Islands Radiological  
Safety Program Review  
5/21 - 22/81

DOCUMENT DOES NOT CONTAIN ECI

Reviewed by J. Frasier Date 4/30/97