

OPERATIONS PLAN

LLL RADIOECOLOGY AND DOSE ASSESSMENT PROGRAM
AT ENEWETAK ATOLL

November 30 through December 14, 1977

I. BACKGROUND AND PURPOSE

Lawrence Livermore Laboratory (LLL) has established a program in conjunction with the Department of Energy to investigate the measurements of radionuclides in the soil, water and biota, radioecological transport modeling and dose evaluation in the Marshall Islands. These investigations are to fulfill the high priority needs for effective rehabilitation of Enewetak Atoll.

The Enewetak Survey of 1972 which resulted in the NVO-140 report (Enewetak Radiological Survey) provides a description of the radiological status of Enewetak Atoll at one point in time for the purpose of evaluating constraints on rehabilitation and cleanup plan development. Resettlement requires additional studies over a longer time frame to assess 1) leaching rates of radionuclides from the soil and vegetation; 2) radionuclide availability to plants; 3) percolation rates and radionuclide content of soil water and 4) general radionuclide cycling phenomena in the environment.

II. DESCRIPTION OF MISSION

A. LLL will conduct followup activities at Enewetak involving:

1. Plant some new crops including squash and watermelon.
2. Harvest mature crops and prepare samples for shipment to California.
3. Moisture measurement work.
4. Fertilize crops and weed plots.
5. Sample soil and vegetation from test plots.
6. Continue ecological experiments designed to evaluate the cycling mechanism for Cs137, Sr 90, and Pu in the atoll ecosystem.
7. Interact with H&N individual assigned to support LLL Garden Project 25% of his time to ensure a complete understanding of necessary requirements for sample collection, crop maintenance, and data reporting and sample shipping procedures.

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8. Sample coconut and pandanus from Belle, Daisy, Irene and Sally-Tilda complex.
9. Rebuild drip irrigation system.
10. Try to reestablish long range ecological time dependence and cycling sites.

III. RESPONSIBILITIES

The Party Chief for this mission will be Dr. William L. Robison (LLL). The Party Chief will be responsible for the coordination of overall mission activities with the DOE/PASO Site Representative, the H&N Enewetak Resident Manager and the CJTG. He will also be responsible for submitting a mission completion report. Since Dr. Robison will not be arriving until December 2 or December 7, William Phillips is designated Party Chief until Dr. Robison's arrival.

IV. SCHEDULE

Personnel arrivals and departures

<u>Name</u>	<u>Honolulu</u>		<u>Enewetak</u>		<u>Dep.</u>
	<u>Arr.</u>	<u>Dep.</u>	<u>Arr.</u>	<u>Dep.</u>	<u>Hono</u>
William Robison	12/1 or 12/4	12/2 or 12/5 (via Kwaj)	12/2 or 12/7	12/14	12/15
Marshall Stuart		(From Kwaj)	11/30	12/14	12/15
Stanley E. Thompson		(From Kwaj)	11/30	12/14	12/15
William A. Phillips		(From Kwaj)	11/30	12/14	12/15
William Burke	12/1 or 12/4	12/2 or 12/5 (via Kwaj)	12/2 or 12/7	12/14	12/15
John H. Rehder		(From Kwaj)	11/30	12/14	12/15

V. LOGISTICAL SUPPORT REQUIREMENTS

A. PASO will provide the following logistical support:

1. Entry permission into Enewetak.
2. Hotel and GSA vehicle reservations. Outrigger West for dates indicated in Honolulu.

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3. *Travel Orders and MAC reservations for the appropriate MAC flights.*
4. *Coordination of this operations plan with all concerned parties prior to the arrival of LLL at Enewetak and coordination of any changes which occur during the mission.*

B. *Enewetak Base Support required:*

1. *Enough food for seven people for two weeks to be purchased from storage for use at Enjebi.*
2. *Use of the backhoe, multi-hoe, two dump trucks, three 4x4 personnel carriers, and the two mules.*
3. *Operational readiness of the LLL water truck filled with 3000-5000 gallons of water.*
4. *Use of the other 12.5 KW generator for use as backup for the trailer at Enjebi.*
5. *All gear and equipment shipped to Enewetak ready to be transported to Enjebi or transported previous to November 30.*
6. *Assistance from H&N man designated to support LLL Garden Project, 25% of his time. Full time support for this individual during the 2 week period would be desirable if it can be arranged.*
7. *Aqua sport boat availability and assistance with putting it in the water.*
8. *Mike boat transportation as follows:*
 - a. *One trip prior to November 30 to transport full water truck, diesel fuel tanks to fill 500 gal. tank at Enjebi and 200 gal. in drums and 200 gal. of gasoline in drums.*
 - b. *One trip each day on December 1 and December 2 to transport remaining LLL equipment and supplies. If two trips cannot haul all of the LLL equipment a third trip will be required.*
 - c. *One trip may be required at some point during the two-week period for resupply of food, water or fuel, or some other unforeseen requirement.*

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VI. FUNDING

LLL efforts are funded through a Request for Services (SANL) No. 609 issued by the University of California Lawrence Livermore Laboratory under USDOE Prime Contract No. W-7405-ENG-48.

VII. REPORTS

• In accordance with requirement V., of the "Development of R.V. Liktanur Operations Plans" procedure dated September 25, 1975, the Party Chief will submit a report no later than 30 days after completion of the operation to the Director, PASO, with an information copy to the Assistant Manager for Environment & Safety, NV. This report should be concise and cover all pertinent information such as adequacy of support, and offer any comments or recommendations which will improve future operations.