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SAFETY & ENVIRONMENTAL PROTECTION DIVISION

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October 27, 1976

Mr. T. F. McCraw
 USERDA/SSC
 Washington, D. C. 20545

Dear Tommy:

The following is a preliminary report of the external radiation survey results for Wotje, Ailuk, Utirik, and Rongelap Atolls. Other details of the environmental survey are included in my trip report to PASO (copy attached).

I selected (arbitrarily) Wotje Island and Ailuk Island as gamma background "controls". At both of these locations, the average of all pressurized ion chamber gamma readings was $3.8 \pm 0.4 \mu\text{R/hr}$. This corresponds to an annual whole-body gamma (plus cosmic ray) exposure of 33 mR.

The average exposure rates at Utirik Atoll are listed below.

<u>Island</u>	<u>Average Exposure Rate ($\mu\text{R/hr}$)</u>	<u>Annual Exposure (mR)</u>
Utirik	4.1	36
Eorukku	4.2	37
Aon	4.1	36

At Rongelap surveys were made at Naen Island in the northwest corner of the atoll, Kabelle Island in the northeast corner. Eniaetok Island midway along the east side, and Rongelap Island in all locations but Rongelap the external gamma fields over the islands were too heterogeneous for me to estimate an "island average" exposure rate with this preliminary review of the data. Rongelap Island, however, was sufficiently uniform at the village (east end) to estimate an average exposure rate of $7.2 \mu\text{R/hr}$, or 63 mR/yr, which is about twice "normal" background in the uncontaminated Marshalls, and slightly less than our annual background exposure on Long Island.

McCraw f i Greenhouse

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A cursory look at the gamma spectral data shows a conspicuous ^{137}Cs peak, which we all assumed was responsible for the excess exposure above "normal" background.

collected the environmental samples on this trip. When his lab results are available, we will co-author a detailed report in which I will include refined dose estimates with gamma spectral data and ion chamber energy dependence corrections.

Best regards,



N. A. Greenhouse

sls

cc: A. P. Hull
C. B. Meinhold
J. Naidu