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Mr. T. F. McCraw
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Dear Tom:

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 PAPR (copy attached).

I selected (arbitrarily) Wotje Island and Ailuk Island as gamma background "controls". At both of these locations, the average of all pre-storm ion chamber gamma readings was $3.8 \pm 0.4 \mu\text{R}/\text{hr}$. This corresponds to about 1 mrem whole-body gamma (plus cosmic ray exposure of 20 mrem).

The average exposure rates at the atolls are listed below.

<u>Island</u>	<u>Average Exposure Rate ($\mu\text{R}/\text{hr}$)</u>	<u>Annual Exposure (mR)</u>
Utirik	3.8	36
Eorukku	4.0	37
Aon	3.8	36

At Rongelap surveys were made on Rongelap Island in the northwest corner of the atoll, Rabielle Island in the northeast corner, Eniaetok Island midway along the east end, and Rongelap Island in all locations but Rongelap town. Gamma fields over the islands were too heterogeneous to estimate an "island average" exposure rate with this preliminary review of the data. Rongelap Island, however, was sufficiently uniform near the village (east end) to estimate an average exposure rate of about 60 $\mu\text{R}/\text{hr}$, or 60 mR/yr, which is about twice "normal" background radiation from uncontaminated Marshall Islands, and slightly less than the annual gamma exposure of Long Island.

McCraw f / Dated: 10/27/79 / Received: 10/27/79

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.

Vic Nelson 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 number-energy dependence correction.

Best regards,

*W.A.
Greenhouse*

sls

cc: A. P. Huff
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