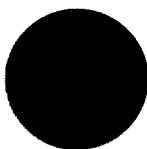Date   May 27, 1980

To   W. J. Bair

From   Ethel Gilbert E.g.

Subject   <u>Cancer Risk Calculations for Enewetak</u>

With data on all cause age-specific death rates (including infant mortality), one could fairly easily estimate the risk of developing leukemia (or other cancers) for

1) Persons born on the island at any point in time,

2) Persons entering the island at any given age at any point in time.

(Practically, these calculations would probably be for each 10 year interval).

Translating these risk estimates into estimates of the <u>number</u> of radiation induced deaths is a far more difficult task since such estimates require knowledge of the size and age distribution of the population over the next 50 years. · The simplest assumption one could make would be that the population stayed constant. Alternatively one could specify birth rates, death rates, and immigration rates, and proceed to simulate the population for a 50 year period. However, slight deviations from assumptions have a way of snowballing into huge discrepancies. Furthermore, the calculations would require the development of a computer program. It is likely that such computations would require a minimum of one or two man-months of a statistician-programmer's time.

I'd be glad to discuss this in further detail. Perhaps it would be helpful if I could see a description of the calculations that have already been made.