



Marshallese

CC: Dr. Walter Weyzen - DOE
Germantown, MD

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ATOMIC ENERGY DIVISION

SAVANNAH RIVER PLANT
AIKEN, SOUTH CAROLINA 29801

April 25, 1978

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Edwin T. Still, LtCol, USAF, VC
Research Program Coordinator
Defense Nuclear Agency
Armed Forces Radiobiology Research Institute
Bethesda, MD 20014

Dear Colonel Still:

Your letter concerning activities at Enewetak Atoll was discussed with our Health Physics personnel to try to get you a total picture of the problem as we understand it.

Certain assumptions need be made. The material is probably highly fused, thus most likely relatively insoluble. The material is quite well mixed with soil of one sort or other which dilutes it.

At levels of 1000 picocuries per gram plutonium containment, a person needs inhale roughly 1/50 gram of soil to get the 2×10^{-5} microcurie M.A.C.

We would thus suggest to your radiation officer a program that will not duplicate the Camp Desert Rock incidents in which I took part, namely much ado after the fact with insufficient data. Thus we propose that each person to be exposed have a whole body count and a urine bioassay for plutonium before going. Then, each week, about 10% or more of the folks can submit a bioassay sample which your plane can take out so the entire work force is monitored during their stay, then upon completion, get another whole body count and bioassay. While there, full face respirators are suggested which filter particulates and have a filter factor of at least 50.

The reason I have gone so far into prevention is because I can offer so little toward cure. Nasal smears merely state something went by; there is no rhyme or reason to the count as a low nasal count, but a long exposure gives more internal deposition than a single breath and high nasal count, for example. Then too on insolubles, the only real therapy is to enhance coughing or sneezing as no drug is of any real value.

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Walter Weyzen
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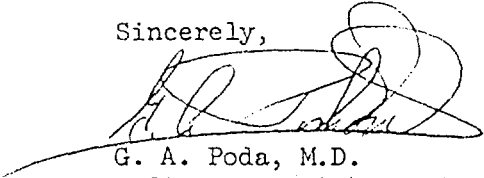
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Some questions arise also. Where would bioassays be run, and how quick an answer can you get at Enewetak? If there is a question of a person who by history has received quite an inhaled dose, an ampoule of DTPA could be given by almost anyone familiar with using a syringe and needle, one gram in the deep muscle of the upper outer quadrant of the gluteus muscle (fanny). A few vials could be obtained from Dr. Weyzen for "emergency use."

Fecal analyses are only good therapeutically if the chemical form is unknown, high fecal excretion and no urine excretion means an insoluble compound whereas the reverse is seen with soluble compounds and only these latter are readily amenable to therapy.

If this all seems to be skirting the subject, it is to a degree, because of the unknowns, etc., but is an attempt to help you as much as possible.

Sincerely,



G. A. Poda, M.D.
Medical Superintendent

GAP/bs

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