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Safety & Environmental Protection Division

January 26, 1979

Dr. Walter H. Weyzen
Manager, Human Health Studies Program
Division of Biomedical & Environmental Research
U. S. Department of Energy
Washington, DC 20545

Dear Dr. Weyzen:

One of the key studies in the Dose-Reassessment for Rongelap and Utirik is the determination of ^{129}I in soil samples that were collected from Rongelap and Utirik soon after the fallout from the BRAVO test had ceased. ^{129}I , the long-lived radionuclide, is the only isotope of the iodine series that would still be present today in the above samples (collected in 1954) in detectable quantities. Knowing the concentration of ^{129}I in these soil samples and also knowing the isotope fractionation (or ratios) for a given yield, we can estimate the other short-lived iodine isotopes. In addition, the iodine isotope ratios could be used to estimate other fission products as well. However, the accuracy in determining the ^{129}I concentration depends on the type of sample used. The historic samples analyzed in this study, so far, have been soil samples collected from Rongelap and Utirik by the University of Washington. It is to be noted that the amount of fallout particles in such samples is extremely small when compared to the bulk of the particles that make up the soil sample. In such cases, the analytical method must be extremely sensitive to detect very small quantities of ^{129}I in the sample. However, a "pure" fallout sample as exemplified by the "Bikini Ash"⁽¹⁾ which fell on the Japanese fishing vessel "The Lucky Dragon" would be an excellent sample to analyze for ^{129}I and thus serve as a benchmark to which other samples could be compared. In this connection, the procurement of a small sample (3-5g) of the "Bikini Ash" would be extremely useful in strengthening the accuracy of our ^{129}I determination in the historic soil samples. Also, the data would prove useful to the Japanese authorities who have studied the sample extensively but have not yet analyzed the same for ^{129}I . Also, the reciprocity of our analytical data would indeed benefit all in the true characterization of the fallout particles from the BRAVO test. The samples, I believe, are in the custody of the Institute of Physical and Chemical Research, Japan.

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W. Weyzen
Info

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I sincerely appreciate your continued interest in this unique study.

Thank you.



Janakiram R. Naidu, Ph.D.
Ecologist

Ref. (1) Radioactive dust from the Nuclear Detonation,
Bulletin of the Institute of Chemical Research, Kyoto University,
(November 1954)

JRN/slg

Encl.: Copy of letter to Dr. Shun'ichi Hisamatsu, Akita University for
your information.

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