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BMBP:RAD

September 17, 1954

Dr. Hardin Jones
Division of Medical Physics
Donner Laboratory
University of California
Berkeley, California

This mate[redacted]ins information affec[redacted] national defense o[redacted]ited St[redacted] the meaning of the espiona[redacted]e 18, U.S.C., Secs. 793 and 794[redacted] revelation of which in a[redacted]er to an unauthor[redacted]n is prohi[redacted] law.

Dear Dr. Jones:

I am sure you read in the papers this morning of the recent Russian atomic test. As we discussed when you were here, whatever further I-131 measurements you can now make will be of great interest to us. I believe the chief questions on which we need further information are:

(1) Route of uptake: Inhalation or oral ingestion? Is there any chance the dogs you previously studied were drinking milk? The only way in which one can possibly account for inhalation dominating ingestion in grazing animals is to accept your suggestion that essentially all the I-131 remains suspended in atomic or molecular form in the air. This type of fractionation among the fission products has not been observed for any of a large number of individual isotopes that have been studied, except, under extreme conditions, those with noble gas precursors (Sr-89, Sr-90, etc.). Since I-131 has a 25-minute Te precursor, one would expect a large fraction of it to be "born" inside ordinary fallout particles.

(2) Amount of I-131 uptake in different species (especially humans) in relation to amount in environment. I hope the New York Operations Office will be able to measure the relative I-131 abundance in their routine gammed paper collections and analyses, thereby establishing, at least in part, the environmental level.

I was very glad to meet you here and besides our discussion of I-131 I found your thoughts on the statistical aspects of aging very stimulating. I intend to look into this further with hopes of finding a more rational model for our diverse radiation hazard predictions in Project Gabriel.

Yours very truly,

Robert A. Dudley
Biophysics Branch
Division of Biology and Medicine

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Jose Diaz 6/2/81
REVIEWED BY DATE
Wilbur A. Strauser 6/3/81
REVIEWED BY DATE
By: W. Tench 6/11/87

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