



BROOKHAVEN NATIONAL LABORATORY  
ASSOCIATED UNIVERSITIES, INC.

Upton, Long Island, New York 11973

Safety & Environmental Protection Division

410001

(516) 282-  
FTS 666/ 4250

R

September 14, 1984

Dr. William Bair, Ph.D.  
Battelle Pacific Northwest Laboratories  
P.O. Box 999  
Richland, WA 99352

Dear Dr. Bair:

Thank you for the opportunity to discuss plutonium dose calculations. I have some additional information which I would like to pass on to you and other persons who were present at the meeting.

Our current estimate of Pu activity in the urine of former Bikinians is now 5 fCi. This is less than the 12 fCi reported by me at the meeting because a longer counting of the sample has allowed better statistics.

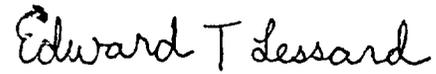
Keith Eckerman has noted an error in my meeting notes regarding the Moss retention function. I have corrected this and the last exponent in the Moss function should read  $-4.8 \times 10^{-5}$  t. This correction leads me to conclude that the Moss function is comparable to the ICRP, Leggett and Durbin functions.

I have reworked the former adult Bikini resident's estimated  $^{239}\text{Pu}$  committed dose equivalent. I based it on 5 fCi in urine, constant continuous intake and ICRP 30 values for committed dose equivalent per unit uptake.

Model	rem			Effective
	Bone Surface	Liver	Red Marrow	
ICRP 30	15	3.0	1.1	0.79
Leggett	20	4.2	1.5	1.1
Durbin	20	4.2	1.5	1.1
Moss	10	2.1	0.77	0.55

We are progressing towards better estimates of Pu in urine as rapidly as we can. Again thank you for your interest and encouragement. Best regards.

Sincerely,



Edward T. Lessard  
Program Manager  
Marshall Islands Radiological  
Safety Program

ETL/lg

cc: K. Eckerman  
B. Robison  
J. Healy  
B. Thomson  
R. Ray

REPOSITORY PNNL  
COLLECTION Marshall Islands  
BOX No. 5690  
FOLDER Enewetak

DOCUMENT DOES NOT CONTAIN ECI

Reviewed by D. J. Crocker Date 5/1/97