

foods by the daily intake of that food item as reported in MLSC diet survey (diet survey is described in the report). The corresponding daily intakes were 95 fCi/d when imported foods are available and 311 fCi/d when imported foods are unavailable. These estimates do not include any intake of soil; they can be compared to the 5500 fCi/d which includes the intake of 1 g of soil per day. The 5500 fCi/d intake is the basis for most of the calculations I sent you previously.

The annual dose equivalent at the end of 7 years is listed in Table 1 for bone marrow and endosteal cells. The total dose for bone marrow is 0.72 mrem/y for the conditions listed in the footnote. The dose for endosteal cells is 8.8 mrem/y.

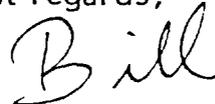
The integral dose is listed for both 50 y and 57 y starting at the beginning of the 7 y period. The total dose for bone marrow for 50 y is 0.051 rem and for 57 y 0.058 rem; the corresponding doses to bone surface cells are 0.62 rem and 0.69 rem.

The Pu burden at the end of 7 years (or for that matter for any of the first 9 years) is listed in Table 4 of the material I sent you earlier. At 7 y the body burden is 4000 to 5000 fCi for the given set of assumptions listed in the footnote of the table.

I realize these doses are very different from those you received from Ed Lessard and I guess that is why we are going to meet. As you can see from the material I have sent you, I also do not understand the observed urine concentrations and associated doses when I make a comparison based on our measured soil and vegetation concentrations, the diet models and current Pu models.

I look forward to meeting with all of you to try to resolve this problem. If there is any more I can do to supply additional data or calculations, please give me a call.

Best regards,



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Section Leader  
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WLR:vs

Enclosure

xc: Keith Eckerman  
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Table 1. Annual dose equivalent in rem/y at end of 7 years.<sup>a</sup>

	Ingestion	Inhalation	Total
Bone marrow	0.11	0.61	0.72
Bone surface	1.3	7.5	8.8

<sup>a</sup> Ingestion intake = 5500 fCi/d of Pu for 7 years

Inhalation intake = 447 fCi/d for 7 years

QF = 20

GTF =  $10^{-4}$

45% of Pu body burden in bone;  $T_{1/2} = 100$  y

45% of Pu body burden in liver;  $T_{1/2} = 40$  y

Table 2. Integral dose for 7 years intake.<sup>a</sup>

	Integral dose, rem					
	1-50 y			1-57 y		
	Ingestion	Inhalation	Total	Ingestion	Inhalation	Total
Bone marrow	0.005	0.046	0.051	0.006	0.052	0.058
Bone surface	0.065	0.55	0.62	0.072	0.62	0.69

<sup>a</sup> Ingestion intake = 5500 fCi/d of Pu for 7 years

Inhalation intake = 44.7 fCi/d of Pu for 7 years

QF = 20

GTF =  $10^{-4}$

45% of Pu body burden in bone;  $T_{1/2} = 100$  y

45% of Pu body burden in liver;  $T_{1/2} = 40$  y

REPOSITORY PNNL  
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**DOCUMENT DOES NOT CONTAIN ECI**

Reviewed by D. Kresin Date 5/11/97