August 20, 1986

NOTE TO: R. W. Barber, EH-33

SUBJECT: Large Area Cleanup - Summary

I have been collecting some information on large area cleanup of plutonium in soil. The attached chart compares Palomares, Thule, and Enewetak. The only case where cost estimates are available is Enewetak. The total was 102.24 x 10^6 dollars for collection and disposal of 80,000 m^3 of soil and 4,300 m^3 of debris.

If we had to perform cleanup of the contaminated area described last October at LANL (the advisors meeting), an area 160 m wide by about 500 m long, and assuming mixing was done by plowing to a depth of say 0.3 m, the volume of soil removed would be 24,000 m^3, which is about 20 times that removed in 1985 and, roughly, one-third the Enewetak volume. A rough guess would then be one-third the Enewetak cost or about 35 x 10^6 dollars.

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Attachment

cc: E. J. Vallario, EH-33

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LARGE AREA CLEANUP--SUMMARY

	CLEANUP					DISPOSAL	
YEAR	LOCATION	AREA (m^2)	METHOD	SOURCE	AMOUNT	TYPE	LOCATION
1966	Palomares, Spain (pop.)	22,000 170,000 2,068,000	Scrape/load burn/plow plow	A/C Accident weapon TRU	1,150 m^3 soil & vegetation	Land burial in U.S.	SRP*
1968	Frozen Bay near Thule, Greenland (not pop.)	60,000	Scrape/load snow	A/C Accident weapon TRU	2.27×10^6 l melted snow	Land burial in U.S. (filtrates)	SRP*
1977 to 1980	Enewetak Atoll (not pop.)	328,000	Scrape/load soil; collect debris	Nuclear test Ops. 1948-58; Nuc. Exp. TRU	80,000 m^3 soil 4,500 m^3 debris	Land burial in concrete matrix	Runit Island Enewetak Atoll

*Savannah River Plant