To: Joe Hercey, H-8
From: John Enders, H-
Subject: Current Disposal Practices for (T) contaminated Material

11-66
#107

Tritium contaminated material is a ~~non routine~~ type of (waste) material. Disposals are handled individually after consultation with the waste generator as to how the material is to be packaged and transported to the disposal area (Area L, TA-54). Current guidelines for tritium waste disposal are set forth in the S.O.P. for disposal of tritium contaminated material.

Currently, the practice is to request the waste generator to package the material into a small metal container equipped with a bolt on gasketed lid. The small container is then placed inside a 55 gallon metal drum that has been coated on the interior (lid also) with (at least 1/4 inch thick layer of) asphalt. The lid of the 55 gallon drum is gasketed and fastened to the drum with a bolted ring. At the disposal area, the drum is lowered into a six (6) foot diameter, sixty (60) foot deep shaft.

If an item is too large to be packaged as described above, it is sealed as well as possible for transport to the disposal area and lowered into the disposal shaft. Melted asphalt is poured into ~~the~~ shaft until the item is completely encased in asphalt.

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The use of asphalt to encase tritium contaminated material was started after studies made by Emility, H-7, showed that this material provides a good barrier to tritium, is economical to use and not too difficult to apply.

Core samples taken in the ground near the disposal shafts by H-8 Group should provide information as to the adequacy of this procedure.

The following tabulation of volume ($ft.^3$) of tritium contaminated waste as well as the estimated annual curie total by calender year shows the very great fluctuation in both volume and curie content of tritium waste.

year	Volume ($ft.^3$)	Curie content
1967	8.7	1,175
1968	23.1	17,505
1969	20.5	35,054
1970	8.0	20,816
1971	12.0	6,446
1972	248.1	2,007.001
1973 (to 2.)	203.1	110.1
	523.5	83,113.101

Prior to disposal, the waste generator is requested to fill out a "Solid Radioactive Waste Disposal Permit" form. The curie amounts

listed on these forms are often only estimates as there is often no method available to give reliable data.

John Enders

xc: file

(C)

57	Vol (ft³)	Ci	Shaft #
	0.1	trace	1 Area G
3	3.0	50	11 " "
/11	1.5	75	103 (Area C)
	1.5	100	" "
/27	2.5	950	104 "
/11	0.1	trace	5 (Area G)
7 totals:	8.7	1,175	
58 1/18	2.0	trace	5 (Area G)
1/26	2.0	"	5 "
2/5	2.5	"	6 "
2/8	2.0	300	6 "
2/16	0.1	trace	7 "
4/1	3.0	"	104 (Area C)
5/14	3.0	"	7 (Area G)
5/23	2.0	5,200	7 "
6/24	1.0	trace	7 "
7/31	2.0	"	7 "
9/19	2.0	"	8 "
12/12	1.0	12,000	105 (Area C)
12/23	0.5	5	9 (Area G)
58 Total	23.1	17,505	

			(ft.³)	
	Area	Shaft	Vol.	C.
4/69	C	105	0.5	35
2	G	10	1.0	trace
	"	11	1.0	"
5	"	10	1.0	"
16	"	11	2.0	"
24	"	12	1.0	5
8	"	"	3.0	9.5
8	"	"	1.0	4.5
17	"	"	2.0	trace
25	"	15	4.0	17,500
	"	16	4.0	17,500
1967 total:			20.5	35,054
0/70	G	17	3.0	20,244
6	"	25	1.0	trace
22	"	13	1.0	"
28	"	39	3.0	572
970 total=			8.0	20,816
1/71	G	39	1.5	91
"	"	"	1.5	6,344
"	"	"	2.0	trace
6	"	"	1.0	1.0
22	"	"	2.0	10.0
5	"	45	2.0	trace
24	"	39	2.0	trace
Total=			12.0	6446

to	Area	Shaft	Vol. ft.³	Ci
6/72	G	43	1.0	7
11	"	"	1.0	trace
15	"	"	0.1	"
4	"	39	2.0	"
2	"	"	12.0	250
15	"	"	2.0	1 mci
27	"	"	88.0	110
1	"	"	110.0	40
13	"	"	8.0	39
11	"	"	16.0	1,560
21	"	"	8.0	1
72 Total =			248.1	2,007.001
7/73	G	39	168	trace
21	"	"	8	10
3	"	"	2	100
30	"	"	16	trace
7	"	"	1	trace
10	"	"	8	0.1
21	"	"	0.1	trace
			203.1	110.1

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	Vol. (ft³)	Ci
67	8.7	1,175
68	23.1	17,505
69	20.5	35,054
70	8.0	20,816
71	12.0	6,446
72	248.1	2,007.001
73 (6 Mo.)	203.1	110.1
Total =	523.5	83,113.101
Yrly		
Mo.)	67.1	1,064
Ave		
-72	53.4	1,383