

OFFICE MEMORANDUM

TO : J. A. Mohrbacher, H-8
via : J. E. Herceg, H-8
FROM : John Enders, H-8
SUBJECT : QUARTERLY REPORT FOR THE THIRD QUARTER OF 1973.
SYMBOL : H-8

DATE: October 10, 1973

This report covers solid radioactive waste disposal/storage activities for the third quarter of 1973. As some of the data is based on estimates, this fact should be kept in mind if any conclusions are to be drawn from the report.

Information for this report was furnished by The Zia Company, L M & R Section, Eng.-4, Supply and Property Dept., Accounting Dept., and LA Notebooks # 17337, 12442, 17338, 14909, 17845, 17339 and 17336.

PROCEDURES

A number of procedures are due for review and/or revision. It is proposed to revise these procedures to reflect the change-over from H-1 to H-8 Group in order to bring them to current status. Preparation of a Solid Radioactive Waste Procedure Manual is to get started immediately.

SPECIAL PROBLEMS

1. Disposal of several kilograms of ^{235}U residues has finally been cleared with Dave Smith, P-5, and will be completed upon receipt of his memo on the subject material. It is planned to place this material in pit #5 and cover with fill dirt.
2. The leaking sludge drum problem in pit #8 has not yet been solved. A current proposal has been made to bury these drums in place and use the rest of pit #8 for TRU non-retrievable (<10 nCi/g) material.
3. Current deliveries of sludge drums from TA-50 are being palletized and stacked in Area G until a storage pit can be prepared (currently, pit #7). All of these drums have the 90 mil plastic liner inside.
4. An Eng-2 (#2401) estimate has been received for removable liners in disposal shafts. It had been proposed to set aside a few shafts to store (retrievably) TRU material (>10 nCi/g) that also contains beta-gamma activity. The total cost estimate of \$23,775.00 for ten shafts equipped with liners, appears to be



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reasonable when one considers these shafts are to be used for up to twenty years. The job would require expense type funding and, due to other expenditures planned for Area G, may not be started until later.

5. Dust control measures, such as use of oil on roadways in the Area, have been delayed until it has been decided whether or not this would conform with current environmental policies.

6. It has been proposed to use the newly excavated pit #7 as the TRU (>10 nCi/g) retrievable storage pit. Prior to being put into use, an asphalt roadway would be put down in the pit. H-8 has drilled four holes in the pit floor for long term water transport observations. Eng.-1 and H-8 personnel have been studying the rock structure where the pit is located.

The proposal calls for placement of all TRU retrievable material to be stacked in the pit in segments and covered with plastic and plywood. A three foot thick dirt cover would then be placed over the top of the segment. A dirt barrier would be placed between the segment and the next segment so as to seal the packaged material from the environment.

Based on current generation of TRU, retrievable material at LASL, the pit would probably receive this type of waste for more than ten years.

7. The Hi-Vol air samplers on the four trailers in Area G were being scheduled for maintenance and calibration. H-1 Decontamination Section at TA-50 started the maintenance work, but could not complete the job due to the fact that replacement parts for these old samplers are no longer available. It appears that purchase of new equipment is the best solution.

8. The Zia Company completed excavation of pits #7 and #24 on September 14, 1973. The additional pit space will provide room for a large amount of TRU, <10 nCi/g, non-retrievable material now stockpiled along the east side of pit #17.

9. A preliminary report on past fires that have occurred in solid radioactive waste was prepared on August 30, 1973. Further investigation would be required to document these fires.

10. A rough draft of a report of current practices and procedures for solid radioactive waste disposal and/or storage was prepared in September.

11. A report on quantities of tritium contaminated material

discarded between 1967 and July, 1973, was prepared for Joe Herceg.

12. An information report showing volume, curie content and estimated grams (²³⁹Pu) of waste generated by CMB-14 in Wing 9, CMR Bldg. from January 1973 through June 1973 was prepared in July.

ROUTINE ACTIVITIES

- 1. Accumulated sludge drums from TA-50 were (A) stacked in pit #8 (61 unlined drums); (B) palletized lined drums (380) were stacked on the ground northeast of pit #8
- 2. Relocation of H-8 Waste Management personnel into Wing 1, CMR Building was completed in August.
- 3. Routine steam cleaning of Dempster Dumpsters was started in August by H-1 Decontamination Section at TA-50. About 25 have been cleaned as of this date.
- 4. Delivered waste continued to be covered the same day of delivery during the quarter. This requires about four hours of Zia Operator time and amounts to about eight hours per week.

INVESTIGATIONS

- 1. Dean Keller, Eng.-1, has approved the use of pit #7 for solid waste disposal.
- 2. Margaret Ann Rogers, H-8 Geologist, has also inspected Pit #7 and #24.
- 3. William Purtyman has drilled holes (4) in the floors of pits #7 and #24. The shafts are to be used for long term water transport observations.
- 4. Samples of puddled rain water have been taken and analyzed for radioactivity from pits #8, 12 and 17. It is planned to take more samples after rain and/or snowfall at Area G.

<u>PACKAGING MATERIAL</u>	JULY	AUG.	SEPT.	QTR. TOTAL
1. Small Plastic Bags	273	766	1,084	3,123
2. Large Plastic Bags	499	257	1,072	1,828
3. Cardboard Boxes	636	1,922	1,581	5,139
4. Drums (55-Gallon)	159	75	46	280
5. Drums (30-Gallon)	12	53	21	86
6. Drums (13-Gallon)	3	2	2	7
7. Crates	5	1	1	7
8. Masking Tape (rolls)	500	500	500	1,500

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<u>DISPOSAL COSTS</u>	JULY	AUG.	SEPT.	QTR. TOTAL
1. Small Plastic Bags	\$ 76	\$ 46	\$ 65	\$ 187
2. Large Plastic Bags	90	46	93	229
3. Boxes	327	384	316	1,027
4. Drums (55-Gallons)	1,749	825	506	3,080
5. Drums (30-Gallons)	74	327	129	530
6. Drums (13-Gallons)	7	5	5	17
7. Crates	1,000	200	200	1,400
8. Tape	500	500	500	1,500
9. Zia Janitor	4,660	4,660	4,660	13,980
10. H-8	3,800	3,800	3,800	11,400
11. Zia Labor	1,200	1,200	1,200	3,600
12. Protective Clothing	100	100	100	300
13. Rd. & Ruin Excav.	45	45	45	135
14. Transport D.D.	1,387	1,530	1,208	4,125
15. Excav. 5 pits	1,000	1,000	1,000	3,000
16. Fencing	406	406	406	1,218
17. H-8 Vehicles	80	80	80	240
18. H-8 Radios	55	55	55	165
	<u>\$16,556</u>	<u>\$15,209</u>	<u>\$14,368</u>	<u>\$46,133</u>

<u>WASTE VOLUME (FT.³)</u>	JULY	AUG.	SEPT.	QTR. TOTAL
I. U Waste				
A. Pit #5				
1. TU Chips	0	48	0	48
2. Graphite	324	270	270	864
	<u>324</u>	<u>318</u>	<u>270</u>	<u>912</u>
B. Pit #16	0	0	0	0
C. Pit #21				
1. Boxes	1,089	1,870	1,549	4,508
2. Loose Mat'l.	1,982	1,596	5,426	9,004
	<u>3,071</u>	<u>3,466</u>	<u>6,975</u>	<u>13,512</u>
D. Disposal Shafts	14.2	0	2.0	16.2
II. TRU Waste				
A. Pit #5 (²³⁸ Pu >10 nCi/g)	300	480	0	780
B. Pit #8 (Sludge, 10>nCi/g)	488	0	0	488

	(FT ³)	JULY	AUG.	SEPT.	QTR. TOTAL
C. Pit #12 TRU, >10 nCi/g)					
1. Drums (30-gal)	15	52	42	109	
2. Drums (55-gal)	24	24	8	56	
3. Crates	328	0	0	328	
4. Other (filter Plenums)	474	1,440	0	1,914	
	<u>841</u>	<u>1,516</u>	<u>50</u>	<u>2,407</u>	
D. Pit #17 (TRU, <10 nCi/g)					
1. Bags	1,996	1,028	1,244	4,268	
2. Boxes	2,510	2,358	1,929	6,797	
3. Drums (30-gal)	15	15	3	33	
4. Drums (55-gal)	72	0	0	72	
5. Crates	0	0	0	0	
6. Loose Mat'l	499	1,518	1,665	3,682	
7. Drums (13-gal)	4	3	3	10	
	<u>5,096</u>	<u>4,922</u>	<u>4,844</u>	<u>14,862</u>	
E. East Side Pit #17 (TRU, <10 nCi/g)	564	720	0	1,284	
F. Disposal Shafts	3.0	32.4	19.1	54.5	
G. Sludge Drums Waiting Storage (>10 nCi/g)	1,080	576	360	2,016	
III. FP/IA Waste (Disposal Shafts)	1.5	1.2	0	2.7	
IV. T ² Waste (Disposal Shaft)	17.0	33.0	0	50.0	
V. Area T, TA-21 (TRU Cement >10 nCi/g Paste)	1,299	1,224	1,151	3,674	
VI. Area A, TA-21 (TRU <10 nCi/g)	400	6	0	406	

	JULY	AUG.	SEPT.	QTR. TOTAL
<u>VOLUME SUMMARY</u>				
I. U Waste				
A. Pit #5	324	318	270	912
B. Pit #16	0	0	0	0
C. Pit #21	3,071	3,466	6,975	13,512
D. Shafts	14.2	0	2	16.2
Total	3,409.2	3,784	7,247	14,440.2
II. TRU (<10 nCi/g)				
A. Pit #17	5,096	4,922	4,844	14,862
B. E. Side, Pit 17	564	720	0	1,284
C. Shafts	3	32.4	19.1	54.5
D. Area A, TA-21	400	6	0	406.0
Total	6,063	5,680.4	4,863.1	16,606.5
III. TRU (>10 nCi/g)				
A. Pit 5 (²³⁸ Pu)	300	480	0	780
B. Pit 3 (TA-50 Sludge)	488	0	0	488
C. Pit 12	841	1,516	50	2,407
D. Area T, TA-21	1,299	1,224	1,151	3,674
E. TA-50 Drums Waiting Storage	1,080	576	360	2,016
Total	4,008	3,796	1,561	9,365
Total Volume (U, TRU, FP/IA, T ²)	13,498.7	13,294.6	13,671.1	40,464.4
<u>Mass/Activity</u>				
I. ²³⁵ U, grams	0.000	0.000	0.000	0.000
II. Total U Kilo-grams	4.536	1,157.000	0.000	1,161.536
III. ²³⁹ Pu Grams	69.701	118.020	134.305	322.026
IV. Curies				

