

## OFFICE MEMORANDUM

TO : Dean D. Meyer, Group Leader, H-1

DATE: January 27, 1970

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FROM : John Enders, Leader, CMR Bldg. Monitoring Section, H-1

SUBJECT: 1969 ANNUAL REPORT ON DISPOSAL OF SOLID RADIOACTIVE WASTE

SYMBOL : H-1-CM

1331 Report  
Disposal data and activities for the fourth quarter of 1969 are included in the report. Data for the report has been furnished by: ENG-4, ENG-5, The Zia Co., SP Dept., and LA Notebooks #12442, #15593 and #14995.

Some of the data is based on estimates and this fact should be kept in mind if any conclusions are to be drawn from the report.

### Beta-Gamma Disposal:

Routine disposal into disposal shafts were carried out during the year. Six shafts have been filled and plugged with cement this year.

One special disposal operation took place on November 25 when H-1 and H-7 disposed of an estimated 35,000 curies of tritium in phosphoric acid. The containers were sealed in asphalt and cement in two 12" diameter shafts at Area G. An S. O. P. was written and followed for this operation. The S. O. P. was written by H-7. *30000 NAm. 1/27/70*

A standard Operating Procedure for use of disposal shafts has been prepared and is pending approval. The new Procedure makes use of a disposal form that (hopefully) will provide information needed to make reports to the AEC and to more accurately determine the quantity of fissile material placed in each disposal shaft.

### Low Level Waste:

Two out-of-town classified, contaminated shipments were received this year, on October 16 and December 4. Both shipments were off loaded and buried in Pit #6, without incident.

Pit #6 was excavated during the third quarter and new perimeter fencing around Pit #6 was completed in October. A cost write-off for both the Pit and fencing was started for the 4th quarter.

After exposed trash in Pit #5 was covered on October 16-17, enough space remained to receive D-38 chips and turnings from the Shops Dept. The first delivery was made during the 4th quarter. It is planned to cover the material only when exposed trash in Pit #6 is covered.



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One escorted delivery was made to Pit #6 on December 16. The Zia Riggers loaded two alpha boxes from Wing 9 and hauled them to Pit #6. The operation was completed with out undue exposure to personnel.

An oil disposal shaft, 6 feet in diameter and 60 feet deep was drilled in Area G during the 4th quarter. The shaft will be used for contaminated Oil disposal.

A revised "Call List" was made in November in order to be able to utilize HPS personnel in the event there was a fire at the Dump during non-working hours.

Mr. Holmes, Albuquerque AEC office, was given a tour of the Waste disposal area on November 18. He also visited TA-50 and discussed liquid waste disposal operations with H-7 Group.

Three reports were made to the Group office during the 4th quarter. One report dealt with upgrading a paper on waste disposal presented in Vienna in 1967. The other two furnished data for reports being made to the AEC on waste disposal.

Data Explanation:

The derivation of data presented is as follows:

1. Small Plastic Bags: These bags are used as liners for contaminated waste cans and cardboard boxes. They cost 8 cents each and hold 0.037 yd.
2. Large Plastic Bags: Bags used in trash dollies to provide secondary containment for the small plastic bags. They cost 24 cents each and hold about 0.46 yd.
3. Cardboard Boxes: These 13" X 13" X 21" boxes cost 19 cents each and are used extensively to hold contaminated trash. The estimated volume is 0.087 yd.
4. 55 Gallon Drums: These drums are used to contain the dewatered sludge from TA-50 and other contaminated material. They cost \$8.60 each and hold 0.3 yd.
5. 2" Masking Tape: The current cost is \$1.04 per roll. The amount used is based on an estimate.
6. Zia Janitor Charge: Baed on a time study that indicates one man-hour per day is used and includes salary and overhead.
7. H-1 Vehicles Charge: Based on information furnished by The Zia Co.
8. H-1 Radio Charge: Information furnished by ENG-5.
9. Protective Clothing: Based on an estimate.
10. Cover Trash: Costs furnished by ENG-4 or Zia and in some cases on an estimate.

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11. Road & Ruin Excavation: Based on a cost write-off over a 20 year period. Balance as of December 31 is \$4,473.
12. Excavate Pit #6: Cost furnished by ENG-4. Write off is 1/8 per quarter. Balance as of December 31 is \$15,146.
13. Health Physics Surveyor: Based on an estimated 6 man hour per day and includes salary plus overhead.
14. Zia Riggers: Estimated. Based on time needed to do the job and \$40 per hour per man.
15. Zia Laborers: Estimated. Based on time required to do the job and \$4 per hour per man.
16. Disposal Shafts: Data furnished by ENG-4.
17. Seal Shafts: Estimated and based on time needed and materials used.
18. Transport Dempster Dumpsters: Furnished by The Zia Co. and is based on total mileage and cost per mile.
19. Fencing: Total cost was \$8,703. Write off is over a ten year period which amounts to \$218.00 per quarter. Balance as of December 31, 1969 is \$8,485.

<u>Packaging Materials: (# used)</u>	<u>1st qtr.</u>	<u>2nd qtr.</u>	<u>3rd qtr.</u>	<u>4th qtr.</u>	<u>Total</u>
1. Sm. Plastic Bags	2,232	2,199	1,936	2,311	8,678
2. Lg. Plastic Bags	1,049	1,003	838	1,047	3,937
3. Boxes	7,119	6,774	6,844	7,091	27,828
4. 2" tape (rolls)	500	500	500	500	2,000

<u>Waste Volume (yd. <sup>3</sup>)</u>	<u>1st qtr.</u>	<u>2nd qtr.</u>	<u>3rd qtr.</u>	<u>4th qtr.</u>	<u>Total</u>
1. Sm. Plastic Bags	83	81	72	85	321
2. Lg. Plastic Bags	483	461	385	482	1,811
3. Boxes	619	589	595	617	2,420
4. Drums	80	116	123	94	413
5. Misc. Supplies	500	500	600	350	1,950
TOTAL	1,765	1,747	1,775	1,628	6,915

Disposal Costs:

1. Sm. Plastic Bags	\$178	176	155	185	694
2. Lg. Plastic Bags	252	241	201	251	945
3. Boxes	1,353	1,287	1,300	1,347	5,287
4. Drums	2,279	3,328	3,526	2,700	11,833
5. 2" tape	520	520	520	520	2,080
6. Zia Janitor	7,850	7,850	7,850	7,850	31,400
7. H-1 Vehicle	240	240	240	240	960
8. H-1 Radios	166	166	166	166	664
9. Protective Clothing	50	50	50	50	200
10. Health Physics Surveyor	2,625	2,625	2,625	2,625	10,500

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	<u>1st qtr.</u>	<u>2nd qtr.</u>	<u>3rd qtr.</u>	<u>4th qtr.</u>	<u>Total</u>
11. Rd. & Ruin Excavation	135	135	135	135	540
12. Zia Laborers	700	500	320	384	1,904
13. Zia Riggers	1,000	2,000	1,000	320	4,320
14. Cover Trash	1,312	1,200	1,200	565	4,277
15. Fencing (Bal. as of 12/31/69 = \$8,485) Write off at 1/40 per qtr.				218	218
16. Transport D.D.	3,420	3,529	3,680	3,464	14,093
17. Pit #6 (Bal. as of 12/31/69 = \$15,146)				2,164	2,164
18. Drill Oil Shaft				887	887
19. Drill Disposal Shafts (10 at approx. \$70 ea.)				700	700
20. 100 Sacks Ready Mix (est.)				100	100
Total per Quarter:	\$22,080	\$23,847	\$22,968	\$24,871	\$93,766
Cost per Cubic Yard:	\$12.50	\$14.00	\$13.00	\$15.00	\$14.00

Comparison of Volume and Costs by Year:

<u>YEAR</u>	<u>VOLUME (YD.)</u>	<u>ANNUAL COST</u>	<u>COST/YD.<sup>3</sup></u>
1956	2,537	\$71,745	\$28.00
1957	3,164	75,548	24.00
1958	3,459	61,800	18.00
1959	4,838	61,801	13.00
1960	5,777	74,794	13.00
1961	7,170	94,110	13.00
1962	7,144	102,242	14.00
1963	7,872	117,974	15.00
1964	10,132	110,926	11.00
1965	6,483	99,028	15.00
1966	8,305	106,621	13.00
1967	8,951	115,409	13.00
1968	8,234	95,401	12.00
1969	6,915	93,766	14.00