

OFFICE MEMORANDUM

TO : Dean Meyer, Group Leader, H-1

DATE: November 11, 1970 126

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

SUBJECT: SOLID RADIOACTIVE WASTE DISPOSAL REPORT FOR THE THIRD QUARTER OF 1970

SYMBOL: H-1-CMR

1780 Report

This report describes solid radioactive waste disposal activities for the third quarter of 1970. Because some of the data presented is based on estimates, this should be kept in mind if any conclusions are to be drawn from the report.

Information for the report was furnished by The Zia Company, ENG-4, SP Dept. and LA Notebooks #15953 and 12442.

Beta-Gamma Waste Disposal:

Routine delivery of this type of material was made to disposal shafts at Area G. A new 6 foot diameter shaft was drilled during the quarter to receive Pu and Na contaminated material from Ten Site. The material was delivered to Area G by the Zia Riggers who lowered the material into the shaft. Ready-Mix cement and sand were used to seal the material in the shaft.

10 new 2 foot diameter shafts were drilled during the quarter and a Work Order Request was submitted for 10 more 3 foot diameter shafts which have not yet been drilled.

Tritium contaminated items are now being routinely treated with asphalt by H-7 prior to being buried in disposal shafts.

Wherever possible, plutonium and uranium contaminated material is being placed in separate disposal shafts in an attempt to comply with the AEC-IAD-0511-21 directive.

The two safety lids for the 6 foot diameter shafts have not yet been delivered. No material may be placed into these shafts except by the Zia Riggers at the present time.



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Low Level Waste:

This type of material was delivered to pit #6 during the quarter. Pit #5 is still being used to receive D-28 chips and ²³⁸Pu scrap material from D P West.

There were three out-of-town deliveries to pit #6 during this quarter. This material was off-loaded and buried without incident. The vans used to deliver the material are now being monitored by the swipe technique in order to comply with current AEC regulations.

A Work Order was submitted to replace the old trailer used at Area G as a storage area for H-1 equipment. After a study by ENG-2, it has been decided to cancel the order because of the indicated high cost.

The two inch masking tape that has been in use for years as a sealant for plastic bags and cardboard boxes does not hold up well when exposed to the weather. A study is now underway to investigate whether or not plastic tape would be a better sealant material or not.

Exposed waste in pit #6 was covered once during the quarter. This covering work, together with the three out-of-town burials, has caused pit #6 to fill at a rather rapid rate.

Routine solid radioactive waste to be delivered to Area G was weighed by the Zia Roads Section prior to delivery. This weighing operation covered a period of about one month and provided data on average weights of boxed material and 55 gal. drums. A report, tabulating the results, was sent to the Group Office on 7/17/70.

Compliance with AEC-0511-21:

This Immediate Action Directive has posed a serious problem with solid radioactive waste disposal procedures. Strict interpretation of the directive would indicate that current disposal of low-level type of waste does not comply in that the material is not packaged in either 55 gal. metal drums or plywood boxes. Further, the retrievability (within 20 years) of the buried material would be most difficult.

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Low Level Waste Cont.:

The following actions were started during this quarter in an effort to comply with the Directive:

1. ²³⁸Pu scrap material from D P West is now being packaged into 30 gal. metal drums and is "stored" in Pit #5, Area G.
2. D-28 chips and turnings from the Shops Dept. is packaged in 30 gal. metal drums, under oil, and "stored" in pit #5, Area G. The "storage" area is physically separated from the ²³⁸Pu material is packaged in "contamination free, retrievable metal containers."
4. Tritium contaminated items are being pre-treated with asphalt in an effort to contain the tritium. Items treated are usually put into either 30 gal. or 55 gal. metal drums and encased in asphalt.

Low-level Waste Volume:

	<u>Total Yd.³</u>
1. Small <u>plywood</u> bags (2,127 x 0.037 yd. ³)	79
2. Large <u>plywood</u> bags (1,072 x 0.046 yd. ³)	493
3. Boxes (5,424 x 0.087 yd. ³)	472
4. 55 gal. Drums (329 x 0.3 yd. ³)	99
5. Misc. Scrap (estimated)	<u>753</u>
Total cubic yards:	1,896

Disposal Costs:

	<u>Total</u>
1. Small plywood bags (2,127 x \$0.08)	\$ 170
2. Large plywood bags (1,072 x \$0.24)	257
3. Boxes (5,424 x \$0.20)	1,085
4. 55 gal. Drums (329 x \$8.60)	2,829
5. Masking tape (500 rolls @ \$1.00/roll)	500
6. Zia janitor charge	7,850
7. H-1 vehicles	240
8. H-1 Radios	166
9. Health Physics Surveyor	2,625
10. Protective Clothing	50

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Disposal Costs Cont.:

	<u>Total</u>
11. Road & Ruin Excav. (Bal. as of 9/30/70 = \$4,068)	135
12. Zia Laborers (estimated)	3,000
13. Zia Riggers (estimated)	1,000
14. Cover exposed trash (estimated)	900
15. Transport Dempster Dumpsters (3,448 miles @ \$1.045/mile)	3,603
16. Excavate Pit #6 (Bal. as of 9/30/70 = \$8,654)	2,164
17. Fencing (Bal. as of 9/30/70 = \$7,940)	218
18. Drill one 6' diam. shaft (estimated)	<u>900</u>
Total for quarter:	\$27,692
Cost per cubic yard for this quarter:	\$15.00


John Enders

to H-1 Files thru:
D. Meyer, H-1
W. Workman, H-1
Dr. Voelz, H-DO
C. Reynolds, ENG-4
C. Christenson, H-7
W. Kennedy, H-6

JE/skv

xc: File