

1/13/63 M.A.G.

3 PAGES
8 9A

November 13, 1963

63-11-183

Mr. W. B. Creamer, Area Manager
U. S. Atomic Energy Commission
P. O. Box 66
Miamisburg, Ohio

Dear Mr. Creamer:

Radioactive Waste Disposal

In TWX 2163C from Mr. K. F. Hertford to Major General A. W. Betts, dated November 1, 1963, it was requested that Mound provide estimates of amounts of classified and unclassified materials and the separation costs involved if a dual approach was used for disposal of its radioactive wastes.

Based on this, an analysis was made of the Mound program - with the results summarized below. The premises used are as follows.

1. Classification of the tritium containing waste is based on the presence of Li⁶ associated with it, and on the volume which would indicate operations over and above a limited unclassified research effort. Since the salt operations are closely associated with all tritium operating areas it is not practicable to separate classified and unclassified wastes at this stage. The original estimate of 75% classified and 25% unclassified was based strictly on that amount of waste generated from operations involving salt, without consideration of areas from which it originated even if in the same room. Increased activity in the tritium salt handling area has considerably changed the proportion of classified versus unclassified wastes on this basis. The percentage is now approximately 85% classified and will probably increase further. It might be possible to develop procedures permitting segregation, however for the amount of waste involved it is considered to be impracticable.

For polonium-210, the basis of separation by security classification is related to the unclassified polonium requirements -

Released through the
MOUND LSTR PROJECT
(funded through DOE's OPENNESS INITIATIVE)
Record Copy held at Mound Facility

MOUND DECLASSIFICATION REVIEW	
1ST REVIEW DATE	5/22/94
AUTHORITY	50 USC 3042
NAME	DAVID
2ND REVIEW DATE	11/14/93
AUTHORITY	50 USC 3042
NAME	DAVID
1. CLASSIFICATION CHANGED TO	
2. CONTAINS OR DOES NOT CONTAIN	
3. COORDINATE WITH	
4. CLASSIFICATION CANCELLED	
5. CLASSIFIED INFO BRACKETED	
6. OTHER SPECIFIED	

November 13, 1963

comprising approximately 15% of the total production level. All hydrolysis waste is considered classified, since it is technically feasible to derive information from such wastes which might reveal the total quantity of polonium processed, however 15% of the overall waste generated in the T-Building can be segregated as unclassified. The same premise applies to the WD sludge, where 15% can be arbitrarily separated as unclassified on a volume basis.

3. In regard to the plutonium-238, the current level of SNAP work relative to the weapons program, SM-Building, is very small - amounting to an estimated 5%. All plutonium-238 work in the R-Building can be considered unclassified. Therefore, unclassified plutonium-238 waste would include 5% of the SM waste and all of the R-Building waste.
4. All plutonium-239 waste is considered unclassified.

The following table shows the breakdown of the radioactive waste volumes based on the premises outlined.

<u>ISOTOPE</u>	<u>VOLUME</u>		
	<u>Classified</u>	<u>Unclassified</u>	<u>Total</u>
<u>Po-210</u> (T-Bldg.)	8,500 cu.ft.	1,500 cu.ft.	10,000 cu.ft.
(WD-Bldg.)	6,800 cu.ft. (51,000 gallons)	1,200 cu.ft. (9,000 gallons)	8,000 cu.ft. (60,000 gallons)
<u>Pu-238</u>	11,000 cu.ft.	3,000 cu.ft.	14,000 cu.ft.
<u>Tritium</u>	12,000 cu.ft.	-	12,000 cu.ft.
<u>Pu-239</u>	-	5,000 cu.ft.	5,000 cu.ft.
TOTAL	38,300 cu.ft.	10,700 cu.ft.	49,000 cu.ft.

At the present time there are approximately 3,200 drums of radioactive wastes stored at Mound Laboratory awaiting shipment. This amounts to roughly 25 vanloads. It is impracticable to separate the approximately 160 drums of plutonium-239 wastes from this accumulation. It would perhaps be feasible to separate drums of

Mr. W. B. Creamer

November 13, 1963

polonium-210 and plutonium-238 wastes based on the percentages outlined. However, with the current accumulation and the day to day increase in wastes generated, it is mandatory that this material be disposed of as rapidly as possible. It is definitely not practicable to continue to hold and accumulate unclassified waste, segregated on the basis of the analysis above, awaiting resolution of this whole waste disposal problem and finalization of a contract with NECO.

The costs associated with the type of segregation outlined for the wastes are not considered significant in the overall program. One of the problems will be to provide adequate storage space to maintain separate areas for accumulation.

In summary, it is possible to separate classified and unclassified wastes as outlined above. However it is recommended that immediate action be taken on waste disposal according to existing guidance. At a later date, once this whole matter has been resolved, procedures can be established for future operations. Your continued assistance in expediting this matter is much appreciated.

Very truly yours,

David L. Scott
Vice President,
Plant Manager

DLS:mg

Copy 1, 2 & 3A - W. B. Creamer
Copy 4A - J. F. Kichelberger
Copy 5A - H. E. Meyer
Copy 6A - E. A. Rembold
Copy 7A - D. L. Scott
Copy 8A - J. J. Spicka
Copy 9A - G. W. Wright