



INTERNAL CORRESPONDENCE

UNCLASSIFIED 27 1986 *BR*

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This document consists of 2 pages,
No. 2 of 6 copies, Series 4

NUCLEAR DIVISION

POST OFFICE BOX 1410, PADUCAH, KENTUCKY 42001

To (Name) Mr. R. W. Levin
Division
Location C-710

Date March 18, 1974

Originating Dept.

DEC 4 1975 BR
SEP 08 1977
MAY 8 1977
MAY 09 1977

Answering letter date

Copy to Mr. R. C. Baker ✓
Mr. J. L. Clark
Mr. W. R. Golliher
Mr. R. L. Harris
File

Subject Neptunium and Plutonium
Plant Material Balance

KY-L-698

JUN 24 1980
JUL 30 1982 BR
OCT 27 1981

KY/L 698 2 6A
KY/L 698 2 6A

A complete inventory has now been made which covers the entire period during which neptunium and plutonium was received at the Paducah Plant. The material balance has been revised to include all receipts from July 1953 through November 1973. Analytical data, however, is still not available to estimate the neptunium receipts from July 1953 through November 1956. During this period, 114,377 tons of UO₃ were received and 2,543 tons remain to be processed.

This inventory, table 1, reflects the best estimate of the transuranic receipts that can be accounted for with existing information. Background material as to the quantities associated with individual sources has been previously documented.^{1, 2}

CLASSIFICATION CHANGED TO **UNCLASSIFIED**
BY AUTHORITY OF CG-PGD-4 RL Harris 7/3/90
BY K. G. Wilson DATE 7/3/90
(person changing document markings)

Alice J. Story
Alice J. Story

AS/mp

¹Letter to R. W. Levin from A. J. Lemonds, "Neptunium and Plutonium Plant Material Balance," KY-L-565, July 19, 1971.

²Golliher, W. R., Harris, R. L., Pulley, H., Waste Management of Radioactive Materials: Neptunium, Plutonium, and Thorium, (KY-L-624,) August 3, 1972.

CLASSIFICATION CHANGED TO **CONFIDENTIAL - RD**
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Classifying Official: R. L. Harris
Title: Diffusion Section Head

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March 18, 1973

TABLE 1

Neptunium and Plutonium Material Balance
July 1953 through November 1973

	<u>Np, g</u>	<u>Pu, g</u>
Receipts	13,548 ¹	271
On Hand		
Unprocessed UO ₃ , R.T.	204	6.0
Ash	63 ²	3.5
Vacuum Dust	58	2.5
UF ₆ Cylinder, R.T.	761 ³	2.0
Thorium Salvage	38	0.7
Magnesium Fluoride (pellets and sludge)	305	-
Volatilized to Cascade	3,336	0.4
Np Cubicle, C-400	9	-
Recovered and Shipped Out		
Cylinder Washings	3,215	17
Ash	1,074	-
Magnesium Fluoride Pellets	33	-
Soil in Environment	4	0.2
Total Accounted For	9,100	32.3
Total Unaccounted For	4,448 ⁴	238.7

¹No analysis available to estimate quantity received from July 1953 through November 1956.

²Lower value than reported in KY-L-624 due to inventory reduction.

³During recent period R. T. UF₆ was fed to the cascade, thereby, reducing the number of cylinders on inventory. Number of cylinder on inventory for previous reporting period (April 30, 1972) and associated trans-uranic quantities are assumed to still be on site. This would be a minimum number of cylinders. The reported value has a high uncertainty.

⁴Previously reported 1200 grams as being discarded were placed in the unaccounted for category as the value has a high degree of uncertainty.

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Internal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC.

December 18, 1984

R. C. Baker
G. W. Lamb
E. A. Kohler
B. McDougal ✓
D. E. Parker
H. Pulley
R. C. Quertermous
S. L. Shell
J. L. Williams
P. A. Wooldridge

Action Plan for Treatment of Liquid Waste

The action plan for treatment of liquid waste stored in the C-746-B radioactive warehouse is attached. The current inventory of waste in the warehouse is shown below:

22 Solid waste drums for disposal.
21 Liquid waste drums to treat.
43 Drums
5 Drums - Alternate treatment as outlined in Joe Williams letter of September 26, 1983.

Disposal of "TRU" waste ($>100\mu\text{Ci/kg}$ of transuranium nuclides) is required to be in solid form. Not all the barrels are above the new limit; however, disposal in C-404 of liquids is not permitted. Therefore treatment is planned for all the liquids stored in C-746-B.

Please review the attached action plan and return your comments by December 27. A start day will be decided upon after all the comments are received. The completion time of the project is 13 weeks after startup.

W. N. Whinnery

W. N. Whinnery

WNW:jrm

cc: File (Re)

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CLASSIFICATION

TCD 9/16/99
Initials Date
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