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TITLE

FISCAL 1965 REVISION OF CESIUM-137 INDEX
FOR NUCLEAR MATERIALS CONTENT OF COATING WASTE

AUTHOR

W. H. Zimmer

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FISCAL 1965 REVISION OF CESIUM-137 INDEX FOR
NUCLEAR MATERIALS CONTENT OF COATING WASTE

by

W. H. Zimmer

Separations Chemistry Laboratory
Research and Engineering
Chemical Processing Department

August 19, 1964

HANFORD ATOMIC PRODUCTS OPERATION
RICHLAND, WASHINGTON

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FISCAL 1965 REVISION OF CESIUM-137 INDEX FOR
NUCLEAR MATERIALS CONTENT OF COATING WASTE

Reference (1): HW-72549, Cesium-137 Index for Nuclear Materials Content of Coating Waste. Secret, Feb. 1, 1962. R. A. Schneider and W. H. Zimmer.

In accordance with the recommended annual review of the Cesium-137 index, promised in Reference (1), the following data are presented.

For Purex:

$$\begin{aligned} \text{Fiscal 1964 Purex Avg. Pu/MWD} &= \frac{.3029 \text{ g Pu/\#U} \times 2000 \text{ \#/Ton}}{708.58 \text{ MWD/Ton U}} \\ &= 0.8549 \text{ g Pu/MWD} \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Fiscal 1965 Purex Cs-137 Index} &= \frac{0.8549 \text{ g Pu/MWD} \times .95^*}{3.576 \times 10^6 \text{ uc Cs}^{137}/\text{MWD}} \\ &= 2.271 \times 10^{-7} \text{ g Pu/uc Cs}^{137} \end{aligned}$$

For Redox:

$$\begin{aligned} \text{Fiscal 1964 Redox Avg. Pu/MWD} &= \frac{.3115 \text{ g Pu/\#U} \times 2000 \text{ \#/Ton}}{873.1 \text{ MWD/Ton U}} \\ &= 0.7135 \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Fiscal 1965 Redox Cs-137 Index} &= \frac{0.7135 \text{ g Pu/MWD} \times .95^*}{3.576 \times 10^6 \text{ uc Cs}^{137}/\text{MWD}} \\ &= 1.896 \times 10^{-7} \text{ g Pu/uc Cs}^{137} \end{aligned}$$

* Five per cent adjustment for possible coating waste solids left in the dissolver.

(2) Nuclear Materials Review - Reactor Areas - July 63 to June 64, Secret, J. W. Handshuh.

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