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Amend. 4



THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN 48640

July 28, 1972

Mr. Robert Layfield
Materials Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Docket No. 40-17

Dear Mr. Layfield:

We would like to request that our source material License AEC No. STB-527 be changed to a license for storage purposes only. During the past year we have only used 4 pounds, 8 ounces of thorium compounds, uranium compounds and uranium metal for research and analytical work. This small amount is well within the limits of a general license.

We do buy source material that is transferred to Consolidated Aluminum Corporation, Madison, Illinois, which they alloy with Dow owned magnesium and ship intact to our customers. Dow does not do any source material magnesium alloying, magnesium extruding or magnesium rolling of such alloys.

Due to the above explanation, we feel our AEC License No. STB-527 should be for inventory purposes only and that the annual AEC fee to Dow should be billed accordingly.

Thank you very much for your cooperation.

Yours very truly,

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13. WASTE PRODUCTS

Limited thorium wastes are generally disposed of in compliance with 20.303 and 20.304. All possible material is returned to the production cycle for economic reasons. Some material which cannot be reclaimed and which is not suitable for disposal through release into sewerage systems or by burial is incinerated in a safe manner. In all cases, the material being incinerated has a maximum nominal concentration of only 3% thorium.

- A. Type of material--water wet chips or fines that are not suitable for reclamation.

Quantity: Bay City -- negligible amounts
Midland -- none to 100 lbs. per month
Madison -- 300 to 500 lbs. per month
(for weight of thorium multiply by 0.03)

Chemical Form--Thorium is alloyed with magnesium, zirconium and manganese with a maximum nominal concentration of 3% thorium.

- B. Measurements made during the burning of scrap chips are described in Dow Bulletin 141-179. The thorium remains in the residue.
- C. Since no thorium was found in the visible fumes, personnel are not exposed to airborne thorium. Values for daughter products are near or below the levels specified in 10 CFR 20 for 40 hour week exposure.
- D. Burning is accomplished on an open dump (not accessible to the public) at points 800 feet to a mile or more from the nearest plant building or habitation. An incinerator stack is not used.
- E. The normal care exercised in burning wet magnesium chips insures that the operator will not be excessively exposed to the fumes from the fire. Based on the tests conducted, direct inhalation of the smoke would not be injurious with respect to the radioactive material content.
- F. The ashes containing the thorium are left on the private dump where they are diluted by other ashes and buried.