

THE MARTIN COMPANY

Baltimore 3, Maryland

December 1, 1958

DOCKET NO. 40-3296

U. S. Atomic Energy Commission
Division of Licensing and Regulation
Washington 25, D. C.

Attention: Mr. J. C. Delaney
Chief, Materials Section
Licensing Branch



Gentlemen:

You will recall that some time ago we discussed by telephone some of the problems relating to the handling of thorium-magnesium (containing 4% or less thorium) that have been encountered in the Baltimore Division of this Company. I explained at that time that this Division has made extensive use of this alloy in the past in connection with the fabrication of such Martin products as the Vanguard and Matador and that we anticipate using substantially increased amounts in connection with the Titan Missile. I also pointed out that because of this increased usage, and because of the minimal hazards presented, we believe it necessary to adopt a set of procedures which would be applicable to this particular alloy as distinguished from other types of source material.

Our Management Engineering Department has now prepared, and I am enclosing herewith, three copies of a document entitled "Proposed Procedure for Handling of Magnesium-Thorium." The document has been reviewed and approved by our Health Physics Department. Although this procedure is self-explanatory, I would like to call your attention to certain of the accountability aspects. While the procedure calls for very strict accountability with regard to scrap materials, we have not made provision for detailed accounting with respect to thorium-magnesium material which is fabricated into components. The weighing of such material would be wholly impracticable, in our particular circumstances, for the reason that the fabricated components are incorporated into complex assemblies containing various non-source materials before being shipped to Denver for final installation in the missile. It should be recognized, however, that all of the 4% thorium-magnesium procured by this Company is utilized in the performance of contracts with the Government. Consequently, the difference between the quantities purchased and the scrap realized represents, at any time, the amount that has been or will be delivered to the Government in the form of fabricated end items.

A/32

THE MARTIN COMPANY

Baltimore 3, Maryland

Mr. J. C. Delaney


- 2 -

December 1, 1958

I shall appreciate it if you will review the enclosure and confirm to me that the proposed procedure set forth therein satisfies existing AEC requirements relative to the handling and accountability of 4% thorium-magnesium. While this procedure would be applicable only to the Baltimore Division, we would expect, subject to AEC concurrence, to institute substantially similar procedures in our other Divisions. We shall be glad to meet with you in your office if you desire any further information or if you have any questions regarding the proposed procedures.

Very truly yours,

THE MARTIN COMPANY


Ross G. Macaulay
Licensing Officer
Nuclear Division

RGM:hp
Enclosures

OPERATING INSTRUCTION

STANDARD PROCEDURE

SUBJECT Proposed Procedure For Handling Of Magnesium-Thorium

FUNCTIONS Material & Procurement
AFFECTED Manufacturing
Quality
Health Physics - Safety
Property Accountability

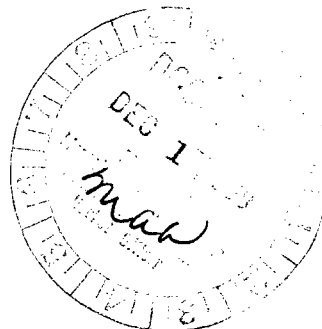
40-3296

REMARKS This procedure establishes the method of handling and processing alloys of Magnesium-Thorium containing 4% or less Thorium. Since this material is a licensed Source Material controlled by The United States Atomic Energy Commission, it is important that all raw material, work in process, efflu, scrap, rejected parts, and surplus material be handled separately from other materials in accordance with the provisions of this procedure.

The Memorandum Procedure issued by this department on January 6, 1958 subject "Thorium Alloy - Accountability" is superseded by this Standard Procedure.

Additional copies of this Standard Procedure may be obtained by calling 9295 or 9327.

R. E. Weber
Management Engineering



I Materiel & ProcurementA Purchasing

Specify in the purchase of all Magnesium-Thorium materials that material must be so designated and that all shipping papers must be marked with the net weight of the material.

B Stores

All Magnesium-Thorium material in Stores must be properly designated and may not be mixed with other types of materials.

NOTE: This means separate racks but does not necessarily mean separate rooms or cages.

C Material Control

- 1 Keep detailed perpetual inventory records on all orders, receipts, and issues, returns and excess materials.
- 2 Initiate Termination Inventory Schedules on obsolete, canceled, and terminated raw sheet stock.

II ManufacturingA Production Planning

Provide special colored and stenciled Shop Order folders marked Magnesium-Thorium to identify that the detail parts are to be made from Magnesium-Thorium alloy.

B Production Project

- 1 Deliver Magnesium-Thorium materials with the color coded Magnesium-Thorium folder to DETAIL MANUFACTURING. Return all excess material larger than 8"x10" to RAW STORES.
- 2 Initiate Termination Inventory Schedules on obsolete, canceled, and terminated parts in process and completed assemblies.
- 3 Process cancellations on details and assemblies that are canceled by Engineering design changes.
- 4 Have all parts moved as an integral package - do not permit losses of material due to rejections, split folders, or other reasons.

C Manufacturing Engineering & Research

- 1 Flag all primary data sheets where there are detail parts to be made from Magnesium-Thorium.
- 2 Mark each page of the Process Planning Sheets in bold letters "MAGNESIUM-THORIUM".
- 3 Before each operation that will require removing material such as cuttings, chips or other residue, a step will be added to the process plan stating "clean machine and floor thoroughly before performing the next operation".

II-C (Cont'd)

- 4 After each operation that requires removing material such as cutting, chips, or residual remnant material, a step will be added to the process plan stating "clean machine and floor thoroughly and put all cuttings, chips, residual material in designated Magnesium-Thorium container".
- 5 A step will be included in the process plan requiring that all completed parts be identified with a Magnesium-Thorium identification spot.

D Factory

- 1 Handle Magnesium-Thorium in accordance with instructions in process plan, Safety Bulletins, and instructions of the Health Physics Representative.
- 2 Account for all material and parts as finished parts, rejected parts, scrap, or ofall.

E Conservation

- 1 Provide containers for Magnesium-Thorium material, cuttings, trimmings, clippings, and floor sweepings.
- 2 Store Magnesium-Thorium material until sufficient quantity is available for shipment to a designated scrap dealer.
- 3 Package the Magnesium-Thorium in containers to insure against loss.
- 4 Weigh all scrap and notify MATERIAL CONTROL of the weight of scrap sold.

NOTE: All rejected parts, scrap, ofall, or surplus materials will be kept separate from other materials and will be disposed of only to a licensed scrap dealer or in accordance with normal Government excess and surplus disposition procedure.

III Quality

- A Inspect incoming material to assure that the proper quantity is received and material is identified as Magnesium-Thorium.
- B Any portion of Magnesium-Thorium required for test purposes must not be disposed of in regular scrap material but must be returned to Magnesium-Thorium containers.
- C Notify CONSERVATION whenever scrap is generated indicating the contract number involved.

IV Health Physics - Safety

- A Monitor the handling of Magnesium-Thorium as required to assure prescribed safety measures are followed and that no health hazards exist. In particular, monitor all operations involving welding, grinding, polishing, etc., to insure that no harmful fumes or dusts are present in work areas.

- B Monitor scrap metal containers to prevent accidental mixing of Magnesium-Thorium with other materials.

V Property accountability

Process terminations and cancellations for Magnesium-Thorium as required.

FORMS USED

Termination Inventory Schedule A	-	Form 060830
Termination Inventory Schedule B	-	Form 060831
Termination Inventory Schedule C	-	Form 060832