

filey

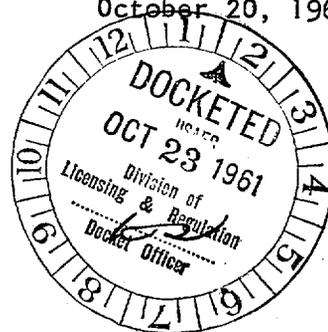
ENGELHARD INDUSTRIES, INC.

D. E. MAKEPEACE DIVISION

PINE & DUNHAM STREETS
ATTLEBORO, MASS.
ATTLEBORO 1-0090

Phone: No. Attleboro
MYrtle 5-9358

October 20, 1961



U.S. Atomic Energy Commission
Division of Licensing & Regulation
Germantown, Maryland

Attention: Mr. Donald Nussbaumer

Reference: Docket 70-139; SNM-185

Subject: Request for License Amendment to Ship Enriched Scrap Material
to a Refinery

Gentlemen:

In the course of fabricating fuel elements, a considerable quantity of scrap material is generated which must be sent to a refinery for salvage of the enriched uranium. This scrap exists in numerous forms such as solid chunks, turnings, melting dross, and other uranium-containing residues.

The purpose of this letter is to propose a method of packing and shipping enriched scrap to a refinery in accordance with safe criticality criteria. Reference is made to TID-7016 Rev. 1, Nuclear Safety Guide, specifically to page 15, figure 3, as the source for nuclear safety data.

The scrap will be packaged in sheet metal cans, each 5.75" in diameter and 11" long with a tight fitting cover. Three of these inner containers will be placed inside a 6" diameter schedule 40 pipe which has a 1/4" plug welded at the bottom and is centered inside a 55 gallon steel drum by means of a 1" x 1" x 3/16" angle iron framework. The top of the pipe will be flanged and gasketed to prevent the possibility of internal flooding. The maximum amount of contained U-235 per container will be limited to 1500 grams.

The criticality justifications for the safety of the proposed unit shipping container have been calculated from the atomic ratios of safe.

*eg to Compliance
10-26-61*

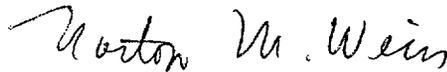
October 20, 1961

diameter cylinders under fully reflected conditions. Assuming that internal flooding occurred in and around the inner containers, the H/U-235 ratio has been calculated as 212. For this ratio, the safe cylinder diameter from figure 3, page 15 is seen to be 5.75"

Shipment of the individual containers to a refinery will be done via exclusive use vehicle to prevent the possibility of commingling while in transit. The maximum density of the proposed container is .16 kg. U-235/ft.³, which is well under limits established for controlled shipments as outlined in Table VI, page 28 of TID-7016. The total amount of U-235 in a single shipment will not exceed 50 units as prescribed in Table IV of the same publication.

Your immediate attention to this request would be appreciated since it is urgent that we dispose of our scrap material at the earliest opportunity. Should further information be required, do not hesitate to call me collect.

Very truly yours,



Norton M. Weiss
Health & Safety Manager

NW:dc