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LRL:JCD

JUN 17 1958

Engelhard Industries, Inc.
113 Astor Street
Newark 2, New Jersey

Attention: Mr. Lawrence C. Burman

Gentlemen:

Reference is made to your letter of May 9, 1958 which requests amendment to your special nuclear material license SNM-98.

You propose among other items to increase the capacity of geometry-safe equipment by increasing the length of the equipment. Included in this category of equipment are 5" diameter dissolvers surrounded by 8" diameter jackets. In regard to this particular type of equipment and other equipment to which they might also apply, we have two comments:

1. A 5" diameter vessel can be considered "geometry-safe" under all conditions only if the material to be placed in it contains a considerable proportion of moderating atoms, i.e., a 5" diameter geometry cannot be considered "always safe" for metals highly enriched in U-235. No limit on gross metal density or on metal-to-water ratio to be used or permitted within this geometry has been stated in your application.
2. Since the region outside the 5" diameter container is bounded by an 8" diameter container, it is not inconceivable that material in solution could fill the entire outer jacket if a single failure in the equipment occurred. Thus, we would like to have the reasons why you believe that such a failure would not produce a critical condition.

Upon receipt of information concerning the above comments, prompt consideration will be given your request for a license.

Very truly yours,

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OFFICE ▶	LRL	LRL	Lyall Johnson		
SURNAME ▶	<i>Delaney</i> dw	LJohnson	Chief, Licensing Branch		
DATE ▶	6-17-58	6-17-58	Division of Licensing & Regulation		