

**ENGELHARD INDUSTRIES, INC.**

70-90  
File 9.

REPLY TO  
RESEARCH & DEVELOPMENT DIVISION  
113 ASTOR STREET  
NEWARK 2, N. J.  
BIGELOW 2-2700

OCT 23 1961  
U.S. ATOMIC ENERGY COMMISSION  
DIVISION OF LICENSING AND REGULATION  
WASHINGTON, D.C.

October 18, 1961

Mr. Donald A. Nussbaumer, Chief  
United States Atomic Energy Commission  
Source & Special Nuclear Materials Branch  
Division of Licensing and Regulation  
Washington 25, D.C.

Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions 7  
FOIA-2008-0214

Dear Mr. Nussbaumer:

We acknowledge the receipt of your letter of August 24, 1961 to our Mr. L. C. Burman regarding his letter of August 10, 1961 for authorization to use enriched uranium isotopic standards at our Spectrographic Laboratory located at 113 Astor Street, Newark, New Jersey.

The questions raised in your letter of August 24 are answered as follows:

1. Our current inventory of  $U_3O_8$  consists of 0.0070 Kg of which 0.0046 Kg are present as  $U^{235}$ .
2. We estimate that the maximum amount of  $U_3O_8$  that we have in our laboratory at any one time, in addition to that above, would be 0.0100 Kg of which 0.0090 Kg would be  $U^{235}$ .
3. Each sample of  $U_3O_8$  requires 10 separate charges requiring a total of 0.000054 Kg of  $U^{235}$  (based on the maximum of  $(b)(4)$   $U^{235}$ ). The maximum number of samples run in a single day would be 3 which would require that a total of 0.00016 Kg of  $U^{235}$  would be consumed. On the basis of our present load, we would not expect to handle more than 19 samples per month.
4. After each series of  $U_3O_8$  samples are run in the spectrographic laboratory, the arc spark stand is thoroughly cleaned together with the hood area where the samples are prepared. After the cleaning operation, paper smears are made of various areas of the arc spark stand and the sample preparation hood. These smears are examined with a scintillation counter, model B1600 manufactured by the Nuclear Corporation of America for the presence of alpha radiation. Any reading found in excess of 10 counts per second requires that the unit be recleaned and retested.

~12/mo

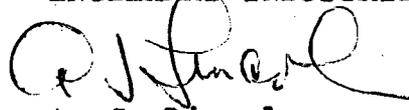
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5. Air-sampling is done using a model Staplex high volume air samples Model TF1A-110 volt with #41 filter paper. Background data in the spectrographic area was found to be 2 - CPM or  $3 \times 10^{-12}$  microcuries/ml. Uranium preparation room was found to have 4 CPM or  $6 \times 10^{-12}$  mc/ml during a period in which 3 separate samples were prepared. Spectrographic room where samples are run was found to be 3 CPM or  $4.5 \times 10^{-12}$  mc/ml. Air in this area is samples once a week with the above equipment in normal operations.
6. All individuals connected with the above work are subject to periodic medical examinations including urine analysis. All individuals are required to wear radiation doseage badges which are supplied by Twin-film Service, Tracerlab, 1601 Trapelo Road, Waltham 54, Massachusetts.

In the event that you require additional information regarding the above matter, please feel free to call upon us at any time.

Very truly yours,

ENGELHARD INDUSTRIES, INC.



A. J. Lincoln  
Instrumental Analysis Department

AJL:rms

cc:

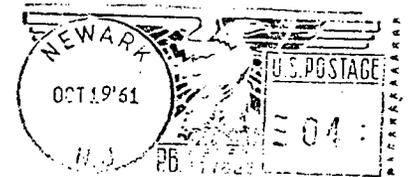
Dr. E. F. Rosenblatt

Mr. L. C. Burman

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FORM EI 529



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