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Engelhard Industries, Inc.  
D. E. Mahopess Division  
Pine and Duchan Streets  
Attleboro, Massachusetts

Attention: Mr. W. F. Wittenborg  
Senior Vice-President

Gentlemen:

Thank you for your letter dated August 30, 1961, and your enclosed report by Mr. Nelson, informing us that you have corrected, or will correct those deficiencies in your AEO licensed program which we brought to your attention in our letter of August 4, 1961.

These matters will be reviewed during the next inspection of your facilities.

Your cooperation with us is appreciated.

Very truly yours,

Robert E. Price  
Assistant Director  
Division of Licensing  
and Regulation

bcc: Compliance Division, HQ )  
Compliance Division, NYOO) w/cpy ltr 8/30/61  
Public Document Room

LR:EB  
CGW:lrn:REC

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9-15-61

LET NO. 10-139

40-768  
Ext. Div. of Compliance

**ENGELHARD INDUSTRIES, INC.**

D. E. MAKEPEACE DIVISION  
PINE & DUNHAM STREETS  
ATTLEBORO, MASS.  
ATTLEBORO 1-0080  
OUR 1-0080  
NUMBER 15  
AREA CODE 617 - CASTLE 2-5500  
August 30, 1961

Mr. Eber R. Price  
Assistant Director  
Division of Licensing and Regulation  
United States Atomic Energy Commission  
Washington 25, D. C.

Dear Mr. Price:

We are enclosing, herewith, a report of our  
Mr. Norton Weiss, Health and Safety officer.

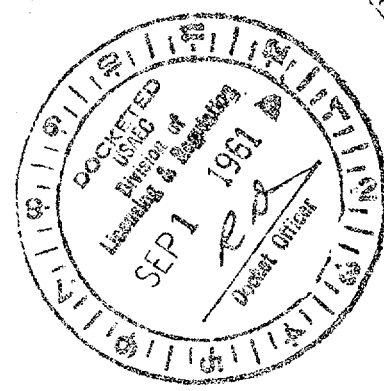
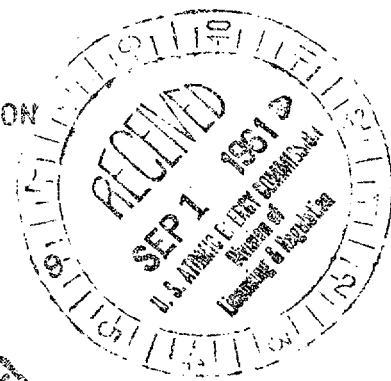
We believe and trust that this report answers  
the questions which you have raised in your letter of  
August 8th and that you are in agreement with the steps  
which have been taken.

Very truly yours,

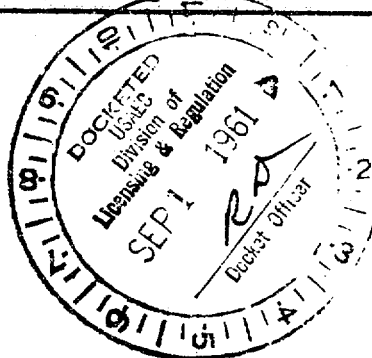
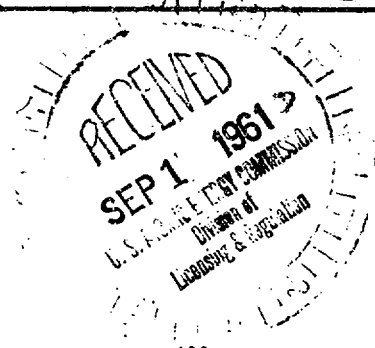
D. E. MAKEPEACE DIVISION

*W. F. Hittendorf*  
W. F. Hittendorf  
Senior Vice-President

WFM/ms  
Enclosure



**ENGELHARD INDUSTRIES, INC.**



D. E. MAKEPEACE DIVISION

PINE & DUNHAM STREETS

ATTLEBORO, MASS.

ATTLEBORO 1-0090  
OUR NEW TELEPHONE

NUMBER IS

AREA CODE 617 - CASTLE 2-5500

August 30, 1961

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

ATTENTION: Mr. Eber R. Price, Assistant Director

REFERENCE: 20-5216-1; 40-768; 70-139

Gentlemen:

With reference to your letter of August 4, 1961, pertaining to several instances of non-compliance with respect to our Source Material and Special Nuclear Material Licenses, we wish to offer the following information:

As indicated in your letter, whole body exposure of Mr. Ernest Bodwell exceeded 3000 milliroentgens in two quarters of the year 1960. This occurred due to the fact that the source of exposure was misinterpreted as a skin dose only, in accordance with Appendix A of 10 CFR 20, which would allow a maximum dose of 6000 milliroentgens per quarter. We now recognize that due to exposure to the lens of the eye, the 3000 milliroentgen limit should have been applied. As of January 1, 1961, we have issued, and required the use of protective glasses to personnel most likely to receive high external exposures, to be used as a shield against exposures to the lens of the eye. In this manner we are able to interpret all beta exposures from uranium to be skin doses, and now use the appropriate limits as specified in the amended 10 CFR 20 Par. 20.101 (a).

Our incineration procedures called for sampling of the effluent discharged from the incinerator stack and also for downwind air sampling. We felt that this was in accordance with par. 20.103 (b) and (c). No incineration has been performed since December, 1960 due to replacement of the stack and modifications to our stack sampling equipment. We propose to begin incineration within a short period of time and will sample the stack effluent as before. Our downwind sampling, however, will now be done at the perimeter of our

property, which will allow us to more closely approximate the concentration of radioactive material released from our restricted area. We trust that this procedure will comply with par. 20.106 (b) and (c) of amended 10 CFR 20.

The exposure of the furnace operators to airborne concentrations of uranium is controlled by means of air samples which are taken to establish atmospheric conditions, and by frequent urinalyses to indicate the extent of internal exposure. Since January 1, 1961, we have increased the number of air samples taken in our processing areas, including the furnace area. Breathing zone as well as general air samples are taken in an attempt to more truly approximate actual exposure. The frequency of urinalyses on some of our personnel including the furnace operators has also been increased in order to prevent the internal accumulation of excessive amounts of uranium.

In general, we feel that our present program of air sampling and urinalysis is adequate to meet the requirements of par. 20.103 (a) and (b).

With respect to the containers which were not labeled in accordance with par. 20.203 (f) (1), (f) (2), and (f) (4), they have since been properly labeled, and instructions have been issued to maintain this condition throughout all processing and storage areas.

We trust that the actions as described above will serve to bring us in full compliance with requirements as outlined in Part 20, Title 10, Code of Federal Regulations, and thank you for bringing these matters to our attention.

Very truly yours,

D. E. MAKEPEACE DIVISION

Norton Weiss  
Health & Safety Officer

LR:CGW  
20-5216-1  
40-763  
78-139

AUG

4 1961

Engelhard Industries, Inc.  
D. E. McKeown Division  
Attleboro, Massachusetts

Attention: Mr. W. F. Hittendorf,  
General Manager

Gentlemen:

This refers to the inspection conducted on December 12 and 13, 1960, of your activities authorized under AEC Byproduct Material License No. 20-5216-1, Source Material License No. C-5161, and Special Nuclear Material License No. SNM-185.

There were no items of noncompliance noted for License No. 20-5216-1. With respect to License Nos. C-5161 and SNM-185, it appears that certain of your activities were not conducted in full compliance with the requirements of the AEC's "Standards for Protection Against Radiation," Part 20, Title 10, Code of Federal Regulations, in that:

1. Your film badge records indicate that during the period of January 9, 1960 through November 13, 1960, Mr. Everett Bodwell's whole body exposure to beta and gamma radiation was in excess of 3000 milliroentgens in any one of several periods of 13 consecutive weeks. This is in violation of Section 20.101(a)(2)(ii), "Exposure of individuals in restricted areas."
2. Surveys performed pursuant to Section 20.201(b), "Surveys," were not adequate in that:
  - a. you have not determined compliance with Section 20.103(b), "Concentrations in effluents to unrestricted areas," with respect to airborne uranium released to unrestricted areas during incineration of wastes which contained licensed materials, and

REGISTERED MAIL  
RETURN RECEIPT REQUESTED

## 2. continued

- b. you have not determined compliance with Section 20.101(b), "Exposure of individuals in restricted areas," with respect to the furnace melt operator's exposure to airborne radioactivity.
3. Six containers, in each of which was stored 600 pounds of depleted uranium, were not labeled as required by Section 20.203(f)(2) and (f)(4), "Caution signs, labels and signals."
4. A one gallon can which contained 1162 grams of 25% enriched uranium, was not labeled as required by Section 20.203(f)(1) and (f)(4), "Caution signs, labels and signals."

Pursuant to the provisions of Section 2.201(a), "Notice of violation," of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, you are requested to notify this office, within thirty days of your receipt of this notice, of why these violations occurred and inform us of the corrective steps taken or to be instituted in achieving correction and preventing further violations and the date when such correction and full compliance will be achieved.

Please note the citations listed above are made under 10 CFR 20 prior to its revision on January 1, 1961. Enclosed is a copy of the former 10 CFR 20 under which you were inspected and a copy of the amended Part 20 which is currently effective.

Thank you for your letter dated May 10, 1961, in which you state that you are determining employee exposure limits pursuant to Section 20.101(b), "Exposure of individuals to radiation in restricted areas," of present 10 CFR 20.

Very truly yours,

cc: Compliance Division, HQ )  
Compliance Division, NYOO) w/cpy ltr 5/10/61  
Public Document Room )

Eber R. Price  
Assistant Director  
Division of Licensing  
and Regulation

## Enclosures:

1. 10 CFR 20
2. 10 CFR 20 Amended
3. 10 CFR 2

DLR:EB  
CGW:lrm:REC

CO

DLR  
ERPrice

8-3-61

RECEIVED  
MAY 11 1961  
U.S. DEPARTMENT OF COMMERCE  
BUREAU OF STANDARDS

ENGELHARD INDUSTRIES, INC.

DOCKET NO. 40-768  
70-139  
File Copy

D. E. MAKEPEACE DIVISION

PINE & DUNHAM STREETS

ATTLEBORO, MASS.

No. ATTLEBORO ~~XXXX~~ MY 5-9358

May 10, 1961

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

Gentlemen:

Reference: Our Letter of April 24, 1961 Concerning Radiation Overexposure Report.

With reference to the above letter pertaining to a radiation overexposure to two of our personnel, we have made further study of the situation and feel that in view of provisions stated in 10 CFR 20 par. 20.101 (b.), these people may be allowed to resume their jobs as melters immediately.

This conclusion was reached by virtue of the fact that we have determined the accumulated occupational dose for each of the individuals on form AEC-4, and have found that the exposures to the whole body received during the first quarter of 1961 were less than three rems and did not exceed the accumulative occupational exposures as determined by the formula 5(N-18).

We are still endeavoring to minimize exposures as much as possible through more rigid supervision and revised operating procedures. In view of the foregoing information, we feel that our interpretation of the regulations is correct and have allowed the two men to resume work on the melting furnace.

Very truly yours,

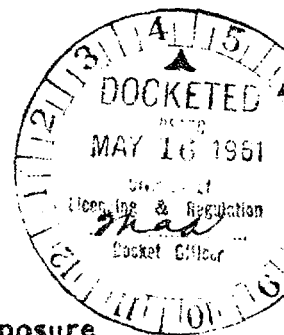
D. E. MAKEPEACE DIVISION

*Norton M. Weiss*

Norton M. Weiss  
Health and Safety Manager

NMW:dc

CC: Manager, New York Operations Office  
D.M. Gardiner, Chicago Operations Office  
T.F. Kelly, Commonwealth of Massachusetts



UNITED STATES GOVERNMENT

# Memorandum

TO : L. Dubinski, Asst. Dir. for Materials  
Division of Compliance

DATE: JUL 26 1961

FROM : R. E. Cunningham, Chief, Enforcement Branch  
Division of Licensing and Regulation

SUBJECT: YOUR MEMORANDUM, WARNER TO ROGERS, DATED MARCH 23, 1961

SUBJECT: ENGELHARD INDUSTRIES, INC.  
ATTLEBORO, MASSACHUSETTS

LICENSE NOS. SNM-125, C-5161 AND 20-5216-1

DLR:CGW

Please refer to the last two paragraphs of subject memorandum. With respect to enforcement action on the inspection report dated January 14, 1960, the licensee answered Mr. Delaney's letter of November 21, 1960 on November 30, 1960. Our letter to the licensee dated February 10, 1961 acknowledged the November 30 letter and confirmed that deficiencies reported in the January 14, 1960 report had been corrected.

Our February 10, 1961 letter also constituted a "Notice of Violation," with respect to deficiencies listed in the investigation report dated October 5, 1960 which you transmitted to L. R. Rogers on October 17, 1960.

Please be further informed that we are not citing the licensee under Section 20.105 for failure to limit the exposure of the melt operator to 10% of the permissible weekly dose following the alleged excessive 13 week exposure. This is not a requirement of present 10 CFR 20. Therefore, it will not be brought to the attention of the licensee.

MYCO COMPLIANCE DIVISION

From CO Hdqrs  
JUL 31 1961

RECEIVED  
JUL 26 1961



SNM-185

C-5161

Name of Licensee: Engelhard Industries Lic. Nos: 20-5216-1

Date of Inspection: December 12 and 13, 1960

**D R A F T**

Initials, Date and Time

Dictated to Steno: 2/7 - 8/61 PBK

Received from Steno: 2/9/61

Received by Sr. Reviewer: 2/10/61

Returned to Inspector: 2/10/61

Passed to Steno for Final: 2/10/61 p.m. PBK

**F I N A L**

Received from Steno: 2/16/61

Received by Sr. Reviewer: 2/16/61

Received by Director: 2/17/61

Received by Sect'y. for  
transmittal to Wash. 2/21/61

Transmitted to Wash. 2/21/61