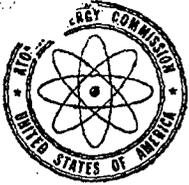


*Inspection*



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.

IN REPLY REFER TO:

**LW:JHL**  
Bucket No. 70-139

MAY 17 1960

**Regalhard Industries, Inc.**  
D. H. McKeown Division  
Pine & Dunham Streets  
Attleboro, Massachusetts

Attention: **Mr. John H. Durant**  
Business Manager

Gentlemen:

Enclosed is Special Nuclear Material License  
No. SNM-185, as amended, to include the increased  
possession limit as requested in your application  
dated March 11, 1960. This was inadvertently  
omitted in your license issued May 9, 1960.

Very truly yours,

**DISTRIBUTION**

- L. B. Mackay, VIN - OROO, w/encl.
- Div. of IS, w/TAK dtd 5/11/60 & encl.
- D. George, MSH, w/encl.
- H. Steele, LRL, w/encl.
- S. R. Gustavson, LRL, w/encl.

**J. G. Delaney**  
Chief, Nuclear Materials Section  
Licensing Branch  
Division of Licensing and Regulation

**INSPECTION DIVISION**

Enclosures:  
SNM-185, as amended

MAY 19 1960

**RECEIVED**

Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions

FOIA-208-0314

~~ML 114 0/20~~

J/91

UNITED STATES  
ATOMIC ENERGY COMMISSION

**SPECIAL NUCLEAR MATERIAL LICENSE**

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 70, "Special Nuclear Material Regulations," a license is hereby issued authorizing the licensee to receive and possess the special nuclear material designated below; to use such special nuclear material for the purpose(s) and at the place(s) designated below; and to transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 70.32(a) of said regulations, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License No.
1. Name	<b>Engelhard Industries, Inc.</b>	<b>344-185, as amended</b>
2. Address	<b>D. E. Robinson Division Pine &amp; Dunham Streets Methuen, Massachusetts</b>	4. Expiration Date
		<b>September 30, 1962</b>
		5. Docket No.
		<b>70-139</b>
6. Special Nuclear Material	7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license	
<b>Uranium enriched in the U-235 isotope.</b>	<b>Eleven hundred eighty (1180) kgs of U-235 contained in uranium enriched in the U-235 isotope.</b>	
8. Authorized uses: <b>For the fabrication of reactor fuel elements and related activities using the procedures described in the licensee's applications of 7/30/57, as amended 2/5 &amp; 12/9/58; 1/13 &amp; 30, 3/3, 4/9 &amp; (2) of 4/17, 5/28 (2), 6/3, 7/31, 8/3, 9/23 &amp; 25, 10/4, 14 &amp; 21, 11/2, 3 &amp; 6 and 12/15 &amp; 28/59 and 1/6 &amp; (am'd)</b>		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part		
<b>None</b>		

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.

**Authorized place of use: The licensee's fuel element processing plant located on Route No. 152, Plainville, Massachusetts.**

**1. (am'd) (2) of 1/22 (1. incineration, and 2. fabrication not including shipping procedures,) 2/16 & 19 and 3/8, 11 & 24/59.**

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance \_\_\_\_\_

INCOMING TELEGRAM

For Div of Inspection

U S ATOMIC ENERGY COMM.  
TWX UNIT

1960 MAY 11 PM 6 08

DOCKET

NO.

70-139

For Div of Inspection

ACA007 607P EDT MAY 11 60 PC298 BA719  
B ALA145 PD WUX PLAINVILLE MASS 11 500P EDT  
ATOMIC ENERGY COMMISSION ATTN J C DELANEY  
GERMANTOWN MD

REF SNM 185 DOCKET 70-139 AMENDMENT DATED MAY 9 '62'

7 630 KGS TOTAL U-235 LIMIT SAME AMENDMENT APPROVES OUR  
APPLICATION LETTER OF MAR 11 REQUESTING LIMIT BE INCREASED  
TO 1180 KG PLEASE ADVISE WHETHER THIS QUANTITY IS APPROVED  
ENGELHARD INDUSTRIES INC D E MAKEPEACE DIVISION J H DURANT

SNM185 70-139 9

7 630 U-235 11 1180.

INCOMING TELEGRAM



U. S. Atomic Energy Commission  
Mr. J. C. Delaney

March 24, 1960  
SNN-185, Docket 70-139

Quarterly tests of the instrument will be made with a calibrated gamma source. Evacuation drills will be held in conjunction with the testing schedule to assure personnel familiarity with emergency evacuation procedures.

We trust that the foregoing information will enable you to act upon this request for amendment. As we have mentioned in the past, our production schedule can be maintained only by your prompt action on this request.

Thank you very much.

Very truly yours,

D. E. MAKEPEACE DIVISION

*John H. Durant*  
John H. Durant  
Business Manager

JHD/ba  
via: AIR MAIL

RECEIVED  
MAR 31 1960  
N2VEG - NY00

RECEIVED  
MAR 24 1960  
GENERAL INVESTIGATIVE  
DIVISION

U. S. Atomic Energy Commission  
Mr. J. C. Delaney

March 24, 1960  
SNM-185, Docket 70-139

Quarterly tests of the instrument will be made with a calibrated gamma source. Evacuation drills will be held in conjunction with the testing schedule to assure personnel familiarity with emergency evacuation procedures.

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Thank you very much.

Very truly yours,

D. E. MAKEPEACE DIVISION

*John H. Durant*  
John H. Durant  
Business Manager

JHD/ba  
via: AIR MAIL

RECEIVED  
MAR 31 1960  
N2AEC - M400

RECEIVED  
MAR 24 1960  
D. E. MAKEPEACE DIVISION

CC:

AEC COO ✓  
AEC NYOO ✓  
Mr. Mittendorf

*Sears*  
*VP*

March 11, 1960

United States Atomic Energy Commission  
Germantown, Maryland

Attention: J.C. Delaney,  
Division of Licensing and Regulation Materials Branch

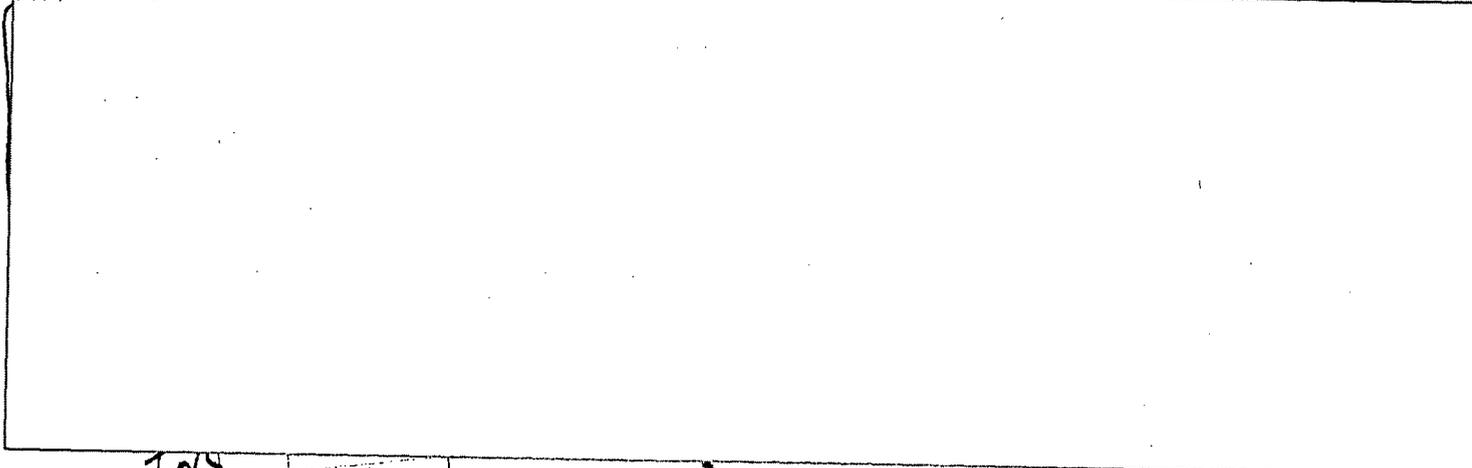
Reference: SAM-185  
Docket 70-139

Gentlemen:

In connection with our fabrication of a core for the Enrico Fermi Fast Breeder Reactor the necessity has arisen to provide for the storage of an entire core loading of enriched fuel pins prior to assembly into fuel element subassemblies. Additional building space is being constructed adjacent to our Mainville Nuclear Materials plant for this and other storage of special nuclear material, increasing our current capacity from 630 to 1180 kilograms of contained uranium-235. The following details our plans and presents criticality justification.

Due to technical difficulties associated with the assembly of PRDC core subassemblies, it has become necessary for D. F. MAKEPEACE to store a complete core loading (12,400) of enriched fuel pins. This amounts to 490 kg. U-235.

(b)(4)



*JNS*


United States Atomic Energy Commission  
Germantown, Maryland  
J.C. Delaney

March 11, 1960

Our new storage building will be of corrugated metal construction with a reinforced concrete floor. It will be 36 ft. wide by 80 ft. long by 12 ft. high. Access to the storage building will be limited to the use of four doors, each of which will be locked at all times when not in use. An enclosed wire cage 30 ft. by 36 ft. will house the enriched uranium area inside the building. This cage will be padlocked so that persons having access to the building will not necessarily have access to the enriched storage cage.

A Nuclear Measurements Corp. GA-2 Gamma Alarm will provide constant monitoring of the enriched storage area. This unit acts as an alarm system by activating a flashing red light and a bell when a pre-set activity level is exceeded. The light and bell are located on the unit itself and also on a fellow meter panel which will be situated at the main guard station of the Nuclear Department. The GA-2 is a scintillation integrator with a high degree of stability. It has a time constant of two seconds and cannot be saturated by high radiation fields. Basic sensitivity range is .05 to 50 mr/hr., logarithmic with a time constant of 2 seconds.

The monitoring unit will be programmed for alert and alarm level operation. This means that an amber light located on the monitor and the fellow meter panel will flash as soon as a gamma field level is sufficient to lift the indicating pointer off the lower contact setting. When the pointer reaches the upper or alarm contact setting, the bell will sound and the red light will turn on, initiating emergency evacuation procedures.

(b)(4)

(b)(4)

RECEIVED

MAR 11 1960

NSAEC - WAGO

The spacing between individual containers has been established as a safe condition based on data which was obtained from Exhibit 8 to Application For Special Nuclear Materials and Source Materials License submitted by Power Reactor Development Co., a copy of which is attached. Partial or complete flooding of the storage area has been assumed to be the most adverse condition which could be encountered. Under these conditions the multiplication for a single subassembly is 0.6. In effect this means that the multiplication for the entire array is 0.6 since individual units separated from each other by one foot of water are considered to be isolated from each other. This separation will be assured by the construction and spacing of the storage containers.

The building will contain no water or steam pipes since it will not be heated. This eliminates any possibility of flooding due to a pipe rupture or leakage. All movement of material into or out of storage will be done individually assuring that only one lot of pins will be out of the storage rack at any time.

The storage building will be under the surveillance of our plant Security which consists of a 24 hour guard force seven days a week. A watchman's clock will be installed inside the storage building to insure an hourly check by the guards during nights and weekends.

Keys to the storage building will be in the possession of the chief guard and will be issued only to persons who have obtained prior clearance from the Security Officer or his designate. An entry in the guard's log book will be made for the issuance and return of keys.

Keys to the enriched storage cage will be retained by the Criticality Officer and will be issued only to those persons authorized by him to enter the cage.

It is requested that our Special Nuclear Materials License be amended as described above. We have commenced production and further request that this application receive the earliest possible consideration.

Very truly yours,

D. E. MAKEPEACE DIVISION

RECEIVED  
John H. Gubant  
Business Manager  
MAY 27 1960

JHD/jet

Enclosure:

MAY 27 1960  
MAY 27 1960  
MAY 27 1960

RECEIVED

MAY 27 1960

MAY 27 1960

Pages 10 through 15 redacted for the following reasons:

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Exemption (b)(4)