

INCOMING TELEGRAM DOCKET NO.

C-133
1002-829
2. Files
70-139

1960 MAR 14 PM 12 18

U.S. ATOMIC ENERGY COMM.
TWX UNIT

ACA006 (1216 PME MAR14 60) PA323 BB253

B ALA#56 PD WUX ATTLEBORO MASS 14 1158AME

ATOMIC ENERGY COMMISSION

GERMANTOWN MD

ATTN J C DELANEY WILL BE AT AEC WEDNESDAY JAN 16 WITH L C BURMAN

OF ENGELHARD IND HOPE TO SEE YOU ISCUSS STATUS OF LICENSE

AMENDMENTS 185 PLEASE ADVISE RECEPTION DESK REGARDS

ENGELHARD INDUSTRIES D E MAKEPEACE DIV J H DURANT

AEC 16 L C 185.

INCOMING TELEGRAM

Information in this record was deleted
in accordance with the Freedom of Information
Act, exemption 4-6
Date: 2008-02-14

~~AL 06 22 90092~~

J/2

LRL:JL
Rocket No. 70-139

MAY 9 1960

Engelhard Industries, Inc.
D. E. Makoposts Division
Five & Dunbar Streets
Attleboro, Massachusetts

Attention: Mr. John H. Durant
Business Manager

Gentlemen:

Enclosed is Special Nuclear Material License No.
SNM-185, as amended.

You will note that as requested in your April 25,
1960, telegram, the authorizations contained in
the license do not include approval of the ship-
ping procedures requested in the last paragraph, page 2
of your January 22, 1960, application.

Very truly yours,

DISTRIBUTION

- L. D. Mackay, OROO -- FIN, w/encl.
- Div. of INS, w/h/25/60 TWX & 4/20/60 request
- D. George, NMM, w/encl.
- H. Steele, LRL, w/encl.
- S. R. Gustavson, LRL, w/encl.
- S/Health, lic. only (2 cys)
- J. C. Delaney, LRL, lic. only
- Doc. Rm., w/encl.
- Formal, w/encl.
- Suppl., w/encl.
- L&R Reading " **Enclosure:**
- LRL Reading " **SNM-185, as amended**
- J. J. Lane, LRL, w/encl.

J. C. Delaney
Chief, Nuclear Materials Section
Licensing Branch
Division of Licensing & Regulation

OFFICE ▶	LRL	FIN	LRL			
SURNAME ▶	J. J. Lane /rh		J. C. Delaney			
DATE ▶	4/29/60	1/60	5/6/60			

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	Engelhard Industries, Inc.	SMS-185, as amended
2. Address	D. E. Wakepeace Division Pine & Dunham Streets Attleboro, Massachusetts	4. Expiration Date
		September 30, 1962
		5. Docket No.
		70-139
6. Special Nuclear Material	7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license	
Uranium enriched in the U-235 isotope.	Six hundred thirty ¹¹⁸ (630) kgs of U-235 contained in uranium enriched in the U-235 isotope.	
8. Authorized use: For the fabrication of reactor fuel elements and related activities using the procedures described in the licensee's application of 7/30/57, as amended 2/5 & 12/9/58; 1/13 & 30, 3/3, 4/9 & (2) of 4/17, 5/28 (2), 6/3, 7/31, 8/3, 9/23 & 25, 10/8, 11 & 30, 11/2, 5 & 6 and 12/15 & 28/59 and 1/6 & (revised)		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part		
None		

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.

8. (2) of 1/22 (1. incineration, and 2. fabrication not including shipping procedures,) 2/16 & 19 and 3/8, 11 & 21/60.

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance

Jed
5/19/60

U. S. GOVERNMENT PRINTING OFFICE : 1956-O-471646 **J. C. Delaney**
Division of Licensing and Regulation

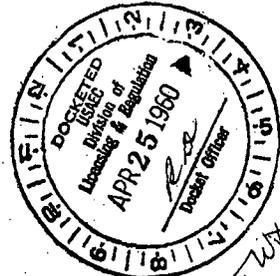
C-433

INCOMING TELEGRAM

U. S. ATOMIC ENERGY COMM.
TWT:BNH

1960 APR 25 AM 11 21

DOCKET NO. 70-139
file by



*cy the TWT part
Inspector 4/29/60*

ACA004 1120A EDT APR 25 60 PA245 BB129
B ALA024 PD WUX PLAINVILLE MASS 25 1038A EDT
J CDELANEV, LICENSING BRANCH

ATOMIC ENERGY COMMISSION GERMANTOWN MD
REF JAN 22 LETTER OF SNM 185 DOCKET 70-139 PLEASE CONSIDER
APPLICATION FOR AMENDMENT WITH LAST PARAGRAPH PAGE 2 ON SHIPMENT
DELETED WE WISH TO PROCEED WITH FABRICATION AND DETER DECISION
ON SHIPPING METHOD RENDING FURTHER DISCUSSION
ENGELHARD INDUSTRIES INC D E MAKEPEACE DIVN J H DURANT.

INCOMING TELEGRAM

*cy to P. J. Duran
4-25-60
L. Dur*

ENGELHARD INDUSTRIES, INC.

Public Document Room

D. E. MAKEPEACE DIVISION
PINE & DUNHAM STREETS
ATTLEBORO, MASS.
ATTLEBORO 1-0090

April 20, 1960.

United States Atomic Energy Commission
Germantown, Maryland

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

Reference: SNM-185
Docket 70-139

Gentlemen:

Further to our letters of March 11 and March ²⁴26, we are planning to commence the production of a second enriched core for the Enrico Fermi Fast Breeder Reactor. We have constructed additional storage space for finished fuel pins. We propose to undertake receipt and fabrication of the additional uranium within the next five weeks. This material will be phased into our operations in accordance with procedures outlined in our feasibility report DEM-5 Revision A. We propose to perform second core fabrication as a sequential program rather than a concurrent program so that limits on amounts of uranium 235 through the various unit operations in manufacture will continue as stated earlier in our report and amended by our license.

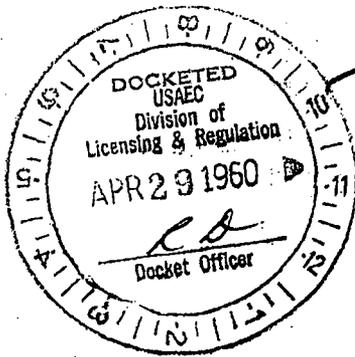
The additional amount of material will be in storage either as raw material or as finished inventory as outlined in our March 11 request. It is our belief that the current scope of our license, together with amendments now in process cover this situation so that this letter is furnished to you primarily for information. In the event that the Commission feels that additional licensing action is required, please consider this letter as an application for amendment.

Thank you very much.

Very truly yours,

D. E. MAKEPEACE DIVISION

John H. Durant
John H. Durant
Business Manager



JHD/rp

APR 29 1960
104

DOCKET NO. 70-139
File C

ENGELHARD INDUSTRIES, INC.

D. E. MAKEPEACE DIVISION

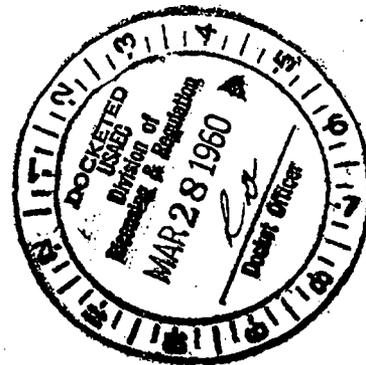
PINE & DUNHAM STREETS
ATTLEBORO, MASS.
ATTLEBORO 1-0090

March 24, 1960

U. S. Atomic Energy Commission
Division of Licensing and Regulation
Materials Branch
Germantown, Maryland

ATTN: Mr. J. C. Delaney

REF: SNM-185, Docket ⁷⁰⁻¹³⁹ 30-179
Our letter of March 11, 1960
Additional Storage Space



Gentlemen:

Further to our letter of March 11th in which we requested amendment to our Special Nuclear Materials License to permit the storage of an entire core loading of enriched fuel for the Enrico Fermi Fast Breeder Reactor, we wish to present herewith additional information concerning compliance with paragraph 70.24, Monitoring Arrangements.

The GA-2 Gamma Alarm unit contains a current amplifier tube which draws current through the alarm relays at all times. Failure of this tube will immediately produce an alert signal due to the programming of the relay contact.

In addition, the operational pilot lamp of the instrument is so connected that current must be drawn by the current amplifier tube in order to provide an operation "on" light for the instrument. Loss of current will, therefore, cause the pilot light to go out.

Settings of the alarm system have been established by Health-Physics personnel as 5 mr/hr. for alert signal and 20 mr/hr. for the alarm signal. This will give respectively a 2/3 and 3/4 scale deflection on the meter. The above settings are in full accord with the provisions outlined in section 70.24 of 10 CFR Part 70.

*cy of this request
sent Inspection
3/30/60*

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

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

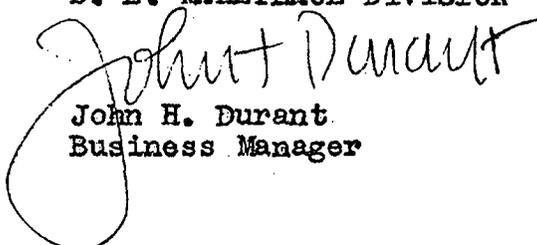
Quarterly tests of the instrument will be made with a calibrated gamma source. Evacuation drills will be held in conjunction with the testing schedule to assure personnel familiarity with emergency evacuation procedures.

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
Business Manager

JHD/bs
via: AIR MAIL

LRL:JL
Socket No. 70-185

MAR 13 1960

Engelhard Industries, Inc.
R. F. Supervision Division
Five & Darius Streets
Attleboro, Massachusetts

Attention: Mr. John H. Durant
Business Manager

Gentlemen:

Enclosed is Special Nuclear Material License No.

SM-185, as amended.

DISTRIBUTION

L. D. MacKay, FIN - OROO, w/encl.
Div. of INS, w/encl. & appli. dtd
3/8/60

D. F. Musser, NMM, w/encl.
H. Steele, LRL, w/encl.
S. R. Gustavson, LRL, w/encl.
S/Health, lic. only
J. C. Delaney, Lic. only
Doc. Rm., w/encl.
Formal, w/encl.
Suppl., " **Enclosure:**
L&R Reading " **SM-185, as amended**
LRL Reading "
J. J. Lane, LRL, w/encl.

Very truly yours,

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

OFFICE	LRL	LRL	FIN			
SURNAME	J. J. Lane /rh	J. C. Delaney	J. C. Delaney			
DATE	3/17/60	3/16/60	3/18/60			

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	Engelhard Industries, Inc.	SNM-185, as amended
2. Address	D. E. Makepeace Division Pine & Dunham Streets Attleboro, Massachusetts	4. Expiration Date
		September 30, 1962
		5. Docket No.
		70-139
6. Special Nuclear Material	7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license	
Uranium enriched in the U-235 isotope.	Six hundred thirty (630)kgs of U-235 contained in uranium enriched in the U-235 isotope.	
8. Authorized use For the fabrication of reactor fuel elements and related activities using the procedures described in the licensee's application of 1/30/57, as amended 2/7 & 12/9/58; 1/12 & 30, 3/3, 4/9 & (2) of 2/17 & 28, 6/3, 7/31, 8/3, 9/23 & 25, 10/8, 11 & 30, 11/2, 5 & 6 and 12/15 & 28/59, and 1/6 & 22, (recon'd)		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part	None ^{2/5} ₁₋₁₃₋₅₉ ^{4/17} ^{5/28(2)} ^{(2) irradiation, fabrication, not including shipping procedure}	

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

8. (recon'd) 2/16 and 3/8/60.

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance

COX
ged
1/11/60

DOCKET NO.

70-139

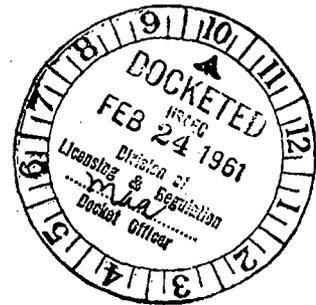
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INGELHARD INDUSTRIES, INC.

D. E. MAKEPEACE DIVISION
PINE & DUNHAM STREETS
ATTLEBORO, MASS.
ATTLEBORO 1-0000

OUR NEW TELEPHONE
NUMBER
CALL 2-5000

February 21, 1961



Mr. J. C. Delaney, Chief
Nuclear Materials Branch
Division of Licensing and Regulation
U.S. Atomic Energy Commission
Washington 25, D.C.

Dear Mr. Delaney:

We would like to take this opportunity of commenting on your letter of February 10th addressed to Mr. Canham.

He has obtained a memorandum from Norton Weiss, our Health and Safety Officer, copy of which I am enclosing, herewith. We feel this covers the situation and trust you agree.

Thanking you for bringing these matters to our attention, we are

Very truly yours,

D. E. MAKEPEACE DIVISION

W. F. Mittendorf
W. F. Mittendorf
Senior Vice-President

WFM/ms
Enclosure

ENGELHARD INDUSTRIES, INC.

D. E. MAKEPEACE DIVISION
ATTLEBORO, MASS.

DATE February 17, 1961

TO MR C. A. Canham

SUBJECT AEC Letter of 2-10-61

COPIES TO

Mr. W. F. Mittendorf

With reference to the above letter from the AEC mentioning two (2) instances of non-compliance with our license, the following comments are in order:

At the time of the alleged overexposure to (b)(6) July 1960, radiation surveys were made with G-M survey meters which were the only instruments available to us. It was felt that, in view of the high levels of radiation which were being encountered, instrumentation of a higher capability and wider range should be obtained. Additional instruments were procured and also additional personnel to utilize them properly.

We have been in compliance with sections 20.201, and 20.401 since September 1960 and this fact was confirmed by Mr. Klevin in his inspection made in December 1960.

Sincerely,



Norton M. Weiss

NMW/s1

LICENSING BRANCH ROUTE SLIP

70-139
2-21-61

DATE: Feb 24 1961

Price, H. L. _____
Kirk, R. L. _____
Price, E. R. _____
Marsh, D. _____
Beck, C. K. _____
~~Roper, L. R.~~ _____
Mason, J. R. _____
Teets, S. A. _____
DI&R Mail Room _____

Johnson, L. E. _____
Fleury, E. R. _____
Edwards, C. T. _____
Borlik, R. F. _____
Karas, F. W. _____
Mason, H. D. _____
Frederick, R. J. _____

~~J. Delaney, J. S. D.~~ _____
Lane, J. L. _____
McCreless, T. G. _____
Doulos, H. _____
Gustavson, S. R. _____
Johnson, R. G. _____
Steele, E. _____
Diggs, R. _____
Allen, M. _____
Forbes, H. _____

Mr. Welby No action required
3-9-61-170

Folder not in files
Ltr. 2-21-61 in ref. to overexposure during July 1960.

From: M. Allen

MEMO
Form No. 70-139

JAN 22 1960

Engelhard Industries, Inc.
U. S. Postoffice Building
100 N. Beacon Street
Arlington, Massachusetts

Attention: Mr. J. H. Hurst
Business Manager

Continued:

Enclosed is Special Nuclear Material License No.
SNM-185, as amended.

Very truly yours,

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

Continued:
SNM-185, as amended

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	Engelhard Industries, Inc. D. E. Makepeace Division	SRM-185, as amended
2. Address	Pine & Dunham Streets Attleboro, Massachusetts	4. Expiration Date
		September 30, 1962
		5. Docket No.
		70-139
6. Special Nuclear Material	7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license	
Uranium enriched in the U-235 isotope.	Six hundred thirty (630) kilograms of U-235 contained in uranium enriched in the U-235 isotope.	
8. Authorized use For the fabrication of reactor fuel elements and related activities using the procedures described in the licensee's application of July 30, 1957 as amended Feb. 5 and Dec. 9, 1958; Jan. 13 & 30, March 3, April 9 & (2) of May 17, May 28(2), June 3, July 2, Aug. 2, Sept. 23 & 25, Oct. 8, 11 & 30, (amended)		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part		
None		

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 #152, Plainville, Massachusetts. 8. Nov. 2, 5 & 6 and Dec. 28, 1959 and January 6, 1960.**

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance Jan 22 1960

INCOMING TELEGRAM

DOCKET NO. *2005*



REC'D 11:55 AM 1/30

PLACED IN MAIL BOX PLAINVILLE MASS 6 1136 AM

DES. ACCURATE LICENSING BRANCH

ATOMIC ENERGY COMMISSION, GERMANTOWN, MD

REF TO 119 SM 485 OUR LETTER DEC 28 ON PIN STORAGE FOLLOWING CLARIFICATIONS:

1. SPACING BETWEEN UNIT ARRAYS IN VAULT IS 50" ACHIEVED BY BOLTING RACKS TO WALLS TO HOLD CONTAINERS AT 30 DEGREE ANGLE FROM VERTICAL.

2. STORAGE AREAS ON DRAWING 50016 HAVE 12 UNITS IN 20 FT X 4 FT SPACE 10 UNITS IN 11 FT X 6 FT SPACE AREAS ARE LESS THAN 12 FT APART HENCE CONSIDERED ASSOCIATED PLANEAR ARRAYS. JUSTIFIED FROM TID-7016, PAGE 16, TABLE 6.

3. SPECIFIC QUANTITY OF REQUEST IS 4800 PINS PLEASE PHONE COLLECT IF OTHER QUESTIONS DELAY CONSIDERATION FOR AMENDMENT. ENGELHARD INDUSTRIES, D. E. MAKEPEACE, DIV. J. H. DURANT

INCOMING TELEGRAM

DOCKET NO. 70-139

File of

ENGELHARD INDUSTRIES, INC.

D. E. MAKEPEACE DIVISION

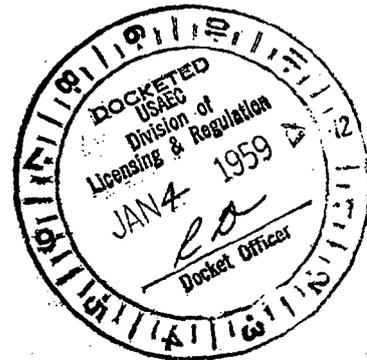
PINE & DUNHAM STREETS
ATTLEBORO, MASS.
ATTLEBORO 1-0090

December 28, 1959

U. S. Atomic Energy Commission
Germantown
Maryland

ATTN: Mr. J. C. Delaney
Licensing Branch

REF: SNM-185
Docket 70-139



Gentlemen:

In connection with our fabrication of a core for the Enrico Fermi Fast Breeder Reactor, (ref: Feasibility Report DEM 5 and Revision A), it has become necessary to defer production of assembly components associated with the enriched portion. It is planned to proceed with production of fuel pins which must be stored in quantities greater than normal work in process inventory. It is accordingly requested that our license be further amended to permit storage of finished enriched pins prior to their insertion in fuel subassemblies.

(b)(4)

The storage of this amount of pins will be in accordance with recommendations set forth in TID-7016, Nuclear Safety Guide, Tables 5 and 6, pages 15 and 16, which lists maximum units of 18.5 Kg U-235 and maximum storage limits of fifty (50) units per array for two (2) associated plane arrays. (b)(4)

(b)(4)

(b)(4) Plane arrays to be used will consist of 12, 10, and 10 units respectively. These will not be associated with the exception of two (2) arrays containing 5

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

December 28, 1959
SNM-185
Docket 70-139

units each which will be stored in our vault. The pins will be contained in a $2\frac{1}{2}$ " diameter steel pipe which has a plate welded on the bottom and a cap threaded on the top. This will be considered as the inner storage container.

Outer storage containers will consist of a series of $3\frac{1}{2}$ " diameter capped steel pipes which are welded to a bottom steel plate and spaced within a welded angle iron framework. Spacing between adjacent units will be 18" edge to edge or 21" center to center.

A drawing (DEM #50034) of the storage containers is enclosed for reference.

The storage area which will be used is adjacent to our Nuclear Dept. The actual space to be used for pin storage will be closed off from the remainder of the area by means of a wire cage. A radiation monitor which is already installed will assure that this area is monitored in accordance with AEC requirements.

A sketch of the area (DEM #50016) is enclosed detailing the sections to be used for pin storage. One section will contain 12 storage units and the other 10 units. The total capacity of this area will be 3300 pins or 112 Kg. U-235. In addition, we plan to store 10 more units containing a total of 1500 pins (51 Kg. U-235) in a concrete vault which has dimensions of 8' x 10' x 8' high. This vault is located in our Nuclear area and is already equipped with a gamma radiation monitor.

Completed pins will be packed in the inner storage container in our nuclear area under the supervision of criticality representatives. When each container has been packed, it will be transported to the storage area while under criticality control. Only one container will be in transit at any time. The pin storage area will be locked at all times except when pins are entering or leaving. All storage areas are included under the 24-hour security surveillance by plant guards.

We will appreciate your early consideration of this application and trust that our license may be amended soon.

Very truly yours,

D. E. MAKEPEACE DIVISION

John H. Durant
John H. Durant
Business Manager

JHD/bs
encls:

INCOMING TELEGRAM

DOCKET NO.

208139
Suppl. Duty

AC WUL148/PD

WUX PLAINVILLE MASS DEC 23 500PME

USAEC, ATTN CHARLES MCCALLUM

LICENSE BRANCH

REF 70-139 HAVE PENDING YOUR CONSIDERATION

1 REQUEST TO INCREASE PICKLE LOAD FROM 3 TO 6 RODS

2 NEW TRANSPORTATION CONTAINER FOR EXTRUSION

3 FEASIBILITY REPORT FOR WADC FUEL ELEMENTS WILL CONTACT YOU

DEC 29 FOR INFORMATION ON STATUS MERRY CHRISTMAS

ENGELHARD INDUSTRIES D E MAKEPEACE DIVN J H DURANT

711P

70-139-1-3-6-2-3-29.

Moted TO files/cpy

DEC 23 PM 7 27
RECEIVED

INCOMING TELEGRAM