

# GENERAL ELECTRIC

SPACE SYSTEMS DIVISION

GENERAL ELECTRIC COMPANY • VALLEY FORGE SPACE CENTER • P.O. BOX 8555 • PHILADELPHIA, PENNSYLVANIA 19101 • (215) 354-1000

RECEIVED

'85 NOV 21 P2:36

November 7, 1985

U.S. N.R.C.  
LIC. FEE MGMT. BRANCH

DR. John Glenn  
Nuclear Materials Safety Section  
U.S. Nuclear Regulatory Commission  
Region One  
631 Park Avenue  
King Of Prussia, Pa. 19406

Dear Dr. Glenn:

The General Electric Co. Space Systems Division is requesting approval of an alternate waste disposal procedure in accordance with provisions of 10 CFR 20.302 and 40.13.

Recently Space Systems Division utilized the services of Chem-Nuclear Systems Inc. to process an accumulation of Magnesium Thorium alloy (98% Mg, 2% Th) machine chips and turnings for disposal at their Barnwell South Carolina facility. Prior to solidification of the chips and turnings, 11 drums (approx. 605 gallons) of an oil and water cutting fluid was extracted from the original 49 drums of waste.

The chips and turnings were solidified in a concrete-like mix in accordance with applicable NRC and South Carolina requirements and are awaiting disposal at Barnwell. The total activity of all the thorium involved in this operation was less than 6 mCi.

The cutting fluid separated from the chips and turnings was filtered and distributed into clean drums. Samples of both the oil and water phases of this fluid were sent to Teledyne Isotopes for analysis for possible thorium content. A copy of the sample analysis is attached. As noted in the Teledyne report 4 of the 6 measurements made indicated levels of thorium at or below their instrumentations limits of detection. Using the lower limit of detection levels and the actual activity measured where applicable the calculated total thorium in all 11 drums of fluid would be about 400 micro curies. This is a theoretical maximum figure because some isotopes were most likely below the lower limits of detection.

Using the above figure the calculated percentage of source material in the 605 gallons of fluid is 0.0075% on a weight basis. This level is far below the 1/20th of 1% level

License Fee Information  
on Next Page

Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions 4

"OFFICIAL RECORD COPY"

104645

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REG-L C40  
SUB-0801 PDR

2007-304

ML10

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identified in 10 CFR 40.13 as an "Unimportant Quantity of Source Material" and thus, in my opinion, not subject to license requirements.

Further, although this material is contained and obviously not effluent in its present state, the levels of each isotope of thorium are far below the effluent limits specified in 10 CFR 20.106 table II without any dilution.

For the above reasons we are proposing that the cutting fluid only be permitted to be handled as non-radioactive waste for disposal purposes.

The proposed disposal of this material would be through our regular hazardous waste disposal broker, Advanced Environmental Technology Corporation (AETC). I have discussed this material with AETC and they have indicated they are capable of arranging approved disposal (assuming an exemption is granted from NRC). The proposed procedure for the disposal of the oil is as follows: separate the oil from the water by extraction, blend the oil with other waste oils and solvents, incinerate the blend at an approved waste incinerator. After separation, the water would be processed at an approved waste water treatment facility. At this facility all organics and suspended solids would be removed. The sludges from waste water treatment are typically further processed to reduce volume and ultimately incinerated and/or land filled.

The exact facilities used to perform the above activities have not been identified. However, all the treatment and disposal facilities used by AETC for General Electric wastes have been approved by EPA and/or the cognizant State regulatory agencies.

Due to the extremely low level of activity (in my opinion not significantly above background) associated with this fluid we believe the above outlined procedures will not cause any undue threat to health or the environment.

Sincerely,

*Alfred W. Kobylinski*  
Alfred W. Kobylinski  
Senior Industrial Hygienist  
Radiation Safety Officer

Copies: T.P. Handley  
C.B. Chilton  
S.J. Mucha, M.D.  
G.H. Webber  
D.B. Olejniczak

Applicant Nov. 14<sup>th</sup>  
Check No. 305431 / 304326  
Amount/Fee Category \$120 (26)  
Type of Fee AMD  
Date Check Rec'd 12/23/85  
Received By sh  
*(#230) - this check returned*  
104645

REPORT OF ANALYSIS

OCTOBER 23, 1985

 **TELEDYNE ISOTOPES**

50 Van Buren Ave., Westwood, New Jersey 07675

Phone: 201-664-7070 Telex 134474

TELEDYNE ISOTOPES  
 REPORT OF ANALYSIS

RUN DATE 10/22/85

	WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE	1
MR A W KOBYLINSKI GENERAL ELECTRIC CO RE-ENTRY SYSTEMS OPERATIONS P O BOX 8555 PHILADELPHIA PA	3-3750		10/17/85	10/25/85		
	19101					

OIL

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		NUCLIDE	ACTIVITY	NUCL-UNIT-( U/M *	MID-COUNT		VOLUME - UNITS ASH-WGHT-( *	LAB.
			START DATE	STOP DATE				DATE	TIME		
43329	1 OIL FOR THORIUM		10/08		TH-234	L.T. 2. E 02	PCI/LITER *	10/22			4
					TH-232	8.3 +-3.7 E 01	PCI/LITER *	10/22			4
					TH-228	4.9 +-2.1 E 01	PCI/LITER *	10/22			4

TELEDYNE ISCTOPES

REPORT OF ANALYSIS

RUN DATE 10/22/85

MR A W KOBYLINSKI GENERAL ELECTRIC CO RE-ENTRY SYSTEMS OPERATIONS P C BOX 8555 PHILADELPHIA PA	WORK ORDER NUMBER 3-3750	CUSTOMER P.O. NUMBER	DATE RECEIVED 10/17/85	DELIVERY DATE 10/25/85	PAGE 2
19101					

W A T E R

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE		ACTIVITY ( PCI/LITER)	NUCL-UNIT-( U/M *	MID-COUNT TIME		VOLUME - UNITS ASH-WGHT-( *	LAB.
			START DATE	STOP DATE			DATE	TIME		
43328	1 WATER FOR THORIUM		10/08		TH-234	L.T. 2. E 02	10/22			4
					TH-232	L.T. 7. E 01	10/22			4
					TH-228	L.T. 3. E 01	10/22			4

LAST PAGE OF REPORT

APPROVED BY H. KING *H. King* 10/22/85

SEND 1 COPIES TO GE596S MR A W KOBYLINSKI  
SEND 1 COPIES TO GE596T DR STEPHEN J MUCHA

2 - GAS LAB.      3 - RADIO CHEMISTRY LAB.      4 - GE(LI) GAMMA SPEC LAB.      5 - TRITIUM GAS/L.S. LAB.

BETWEEN: William O. Miller, Chief  
License Fee Management Branch  
Office of Administration

John E. Glenn, Chief  
Nuclear Materials Section B  
Division of Engineering and  
Technical Programs

*Note 1.*  
*2 requests attached*  
*Fee Needed*

11300  
5/89  
032

**LICENSE FEE TRANSMITTAL**

**A. REGION**

**1. APPLICATION ATTACHED**

Applicant/Licensee: General Electric Company  
Application Dated: 11/7/85 + 11/18/85  
Control No.: 104645  
License No.: SUB-831

**2. FEE ATTACHED**

Amount: 0 + \$120 | 4230 - ck  
Check No.: 0 | 305431 | 304326 returned

**3. COMMENTS**

Signed B. Romda P. Latchek  
Date 11/15/85

**B. LICENSE FEE MANAGEMENT BRANCH**

1. Fee Category and Amount: 2G (\$120)

2. Correct Fee Paid. Application may be processed for:

Amendment  \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

040-07344

Signed G. Jackson  
Date 12/26/85

BETWEEN: William O. Miller, Chief  
License Fee Management Branch  
Office of Administration

John E. Glenn, Chief  
Nuclear Materials Section B  
Division of Engineering and  
Technical Programs

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: General Electric  
Application Dated: 8/29/84  
Control No.: 02866  
License No.: SUB 831

2. FEE ATTACHED

Amount:                       
Check No.:                     

3. COMMENTS

For fee, see  
CN# 02863

Signed DRH  
Date 9/6/84

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: 26<sup>th</sup> 120

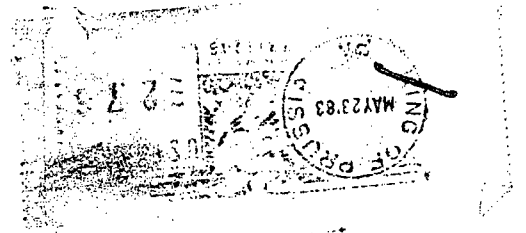
2. Correct Fee Paid. Application may be processed for:

Amendment                       
Renewal                       
License                     

Signed Alta Cabell  
Date 9/13/84

BETWEEN: William O. Miller, Chief  
License Fee Management Branch  
Office of Administration

John E. Glenn, Chief  
Nuclear Materials Section B  
Division of Engineering and  
Technical Programs



LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: General Electric

Application Dated: 5/23/83

Control No.: 01403

License No.: SUB-831 040-07344

2. FEE ATTACHED

Amount: \$70.00 *Renewal Source Matl.*

Check No.: G 615275

3. COMMENTS

*Manufacturing*

Signed Foster

Date 5/27/83

B. LICENSEE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: \_\_\_\_\_

2. Correct Fee Paid. Application may be processed for:

Amendment \_\_\_\_\_

Renewal \_\_\_\_\_

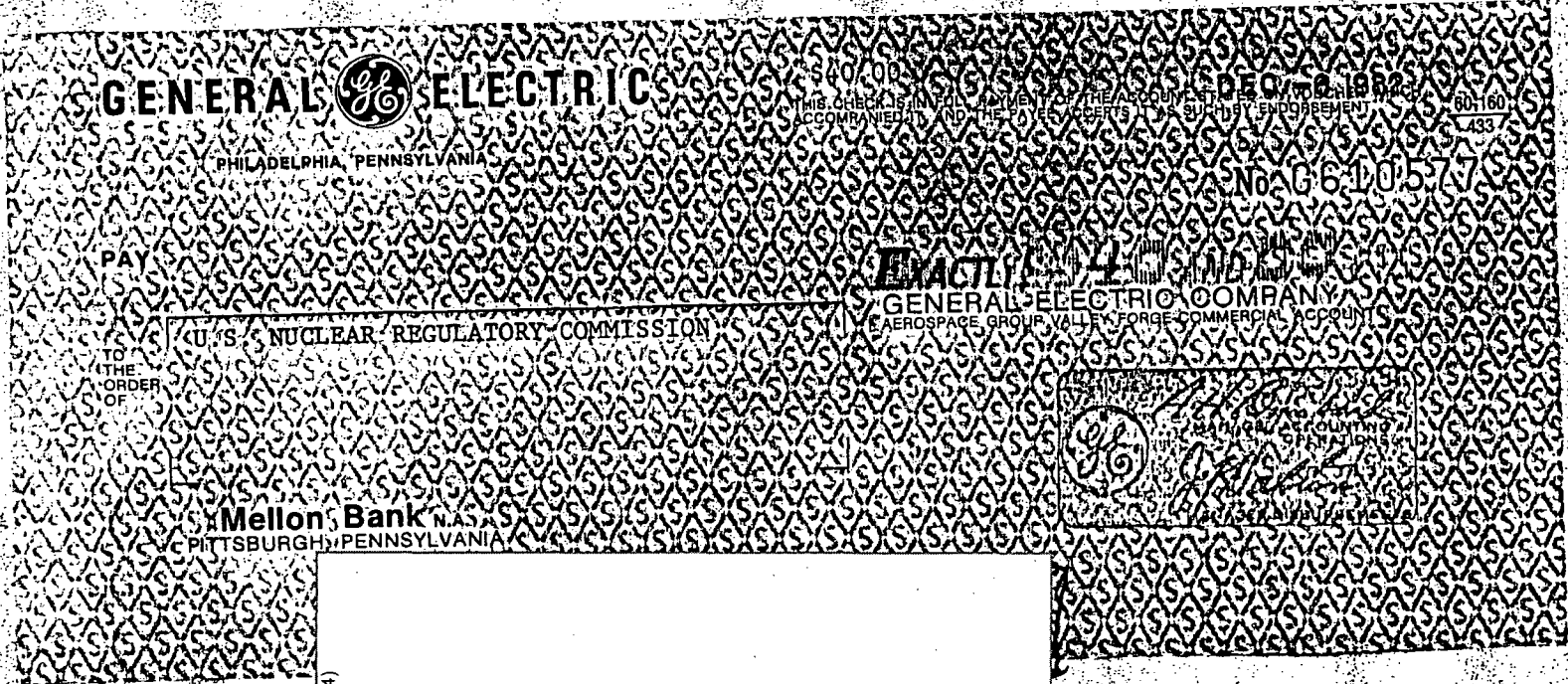
License \_\_\_\_\_

*HJS*

Signed \_\_\_\_\_

Date \_\_\_\_\_





(b)(4)

433

**GENERAL ELECTRIC**



\$70.00

APR 29 1983

THIS CHECK IS IN FULL PAYMENT OF THE ACCOUNT STATED ON VOUCHER WHICH ACCOMPANIED IT, AND THE PAYEE ACCEPTS IT AS SUCH BY ENDORSEMENT.

60-160  
433

PHILADELPHIA, PENNSYLVANIA

No. G615275

PAY

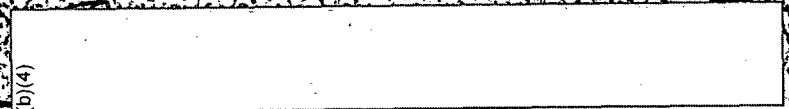
TO THE ORDER OF

NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR MATERIALS & SAFEGUARDS  
MATERIALS LICENSING BRANCH  
WASHINGTON, DC 20555

**INACTIVE**  
GENERAL ELECTRIC COMPANY  
AEROSPACE GROUP, VALLEY FORGE COMMERCIAL ACCOUNT

Mellon Bank N.A.  
PITTSBURGH, PENNSYLVANIA

*John Combs*  
*J. M. Neill*



(D)(4)

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