

DOCKET NO. 40-739, 1
GENERAL  ELECTRIC

REGULATORY FILE CY
RE-ENTRY AND
ENVIRONMENTAL
SYSTEMS DIVISION

GENERAL ELECTRIC COMPANY 3198 CHESTNUT STREET
Rm. 2950, PHILADELPHIA, PENNSYLVANIA 19101, Phone (215) 823-1000

March 9, 1973

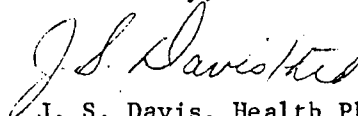
James C. Malaro, Chief
Materials Branch
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Malaro:

Enclosed are two copies of Form AEC-2 for the renewal of License
Number SUB-831.

If any further information is required, please contact me at your
convenience.

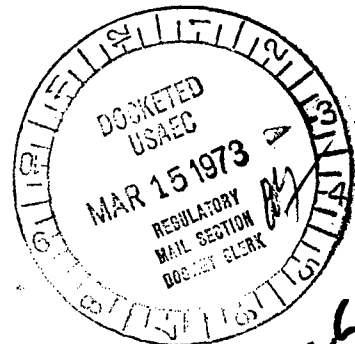
Yours truly,



J. S. Davis, Health Physicist
Industrial Safety Engineering

/ktd

Enclosures



F-51

Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions 6
FOIA- 2007-304

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DOCKET NO. **40-7344**

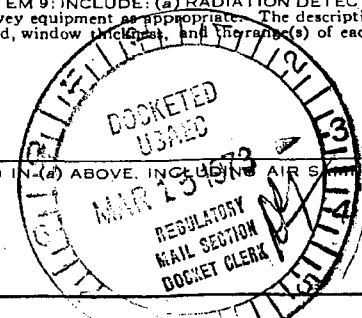
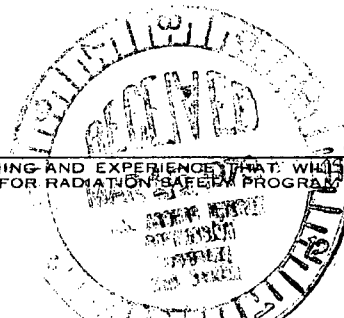
UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

REGULATORY FILE **CT 7**

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

<p>1. (Check one)</p> <p><input type="checkbox"/> (a) New license</p> <p><input type="checkbox"/> (b) Amendment to License No. _____</p> <p><input checked="" type="checkbox"/> (c) Renewal of License No. <u>SUB 831</u></p> <p><input type="checkbox"/> (d) Previous License No. _____</p>		<p>2. NAME OF APPLICANT General Electric Company, Re-entry and Environmental Systems Division</p> <p>3. PRINCIPAL BUSINESS ADDRESS 3198 Chestnut Street Philadelphia, Pa. 19101</p>																	
<p>4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED</p> <p style="text-align: center;">See Attachment 1</p>																			
<p>5. BUSINESS OR OCCUPATION Manufacturing & Missile Research</p>		<p>6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP n/a</p>	<p>(b) AGE n/a</p>																
<p>7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED</p> <p style="text-align: center;">Research development and manufacturing programs related to the Missile and Space Programs.</p>																			
<p>8. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:20%;">(a) TYPE</th> <th style="width:20%;">(b) CHEMICAL FORM</th> <th style="width:20%;">(c) PHYSICAL FORM (Including % U or Th.)</th> <th style="width:40%;">(d) MAXIMUM AMOUNT AT ANY ONE TIME (in pounds)</th> </tr> </thead> <tbody> <tr> <td>NATURAL URANIUM</td> <td></td> <td></td> <td></td> </tr> <tr> <td>URANIUM DEPLETED IN THE U-235 ISOTOPE</td> <td style="text-align: center;">Uranium</td> <td style="text-align: center;">Solid</td> <td style="text-align: center;">500 lbs.</td> </tr> <tr> <td>THORIUM (ISOTOPE)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (in pounds)</p> <p style="text-align: center;">500 lbs.</p>				(a) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (Including % U or Th.)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (in pounds)	NATURAL URANIUM				URANIUM DEPLETED IN THE U-235 ISOTOPE	Uranium	Solid	500 lbs.	THORIUM (ISOTOPE)			
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URANIUM DEPLETED IN THE U-235 ISOTOPE	Uranium	Solid	500 lbs.																
THORIUM (ISOTOPE)																			
<p>9. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.</p> <p style="text-align: center;">See Attachment 2</p>																			
<p>10. DESCRIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF APPLICANT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM (OR OF APPLICANT IF APPLICANT IS AN INDIVIDUAL).</p> <p style="text-align: center;">See Attachment 3</p>																			
<p>11. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) RADIATION DETECTION AND RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument).</p> <p style="text-align: center;">See Attachment 4</p>																			
<p>(b) METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING EQUIPMENT (for film badges, specify method of calibrating and processing, or name supplier).</p> <p style="text-align: center;">See Attachment 5</p>																			



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ATTACHMENT 1

REGULATORY FILE CY.)

4. Authorized Places of Use: The licensee's facilities at:
- a. 3198 Chestnut Street, Philadelphia, Pa.
 - b. D and Luzerne Streets, Philadelphia, Pa.
 - c. Morgantown Test Facility, Elverson, Pa.
 - d. STC Building 100, Goddard Boulevard, King of Prussia, Pa.
 - e. CC&F Building 9, Fifth Avenue, King of Prussia, Pa.
 - f. Vandenberg Air Force Base, California

ATTACHMENT 2.1

9. Radiological Procedures when working with depleted uranium or materials containing depleted uranium:
- a. All programs must be reviewed and approved by the Ionizing Radiation Advisory Group prior to the start of any work with radioactive materials.
 - b. Receiving - All radioactive materials, including uranium, should be marked with an appropriate shipping tag. Receiving segregates all radioactive materials upon arrival and notifies the Safety Office. Safety takes a radiation and contamination survey before delivery to the user.
 - c. Storage - Radioactive materials must be stored in a locked, properly posted room or locker which has been approved by the Health Physicist. Periodic contamination surveys are taken of the storage areas.
 - d. Mixing - When working with uranium in powder form proper contamination procedures must be followed. All work must be performed in a hood which has been checked annually to assure air flow is at least 100 linear feet per minute. All users must wear proper protective clothing which will include gloves and lab coat. TLD badges are worn by all personnel involved in this procedure. Periodic contamination surveys are taken to assure contamination is controlled. All waste materials are disposed as radiological waste.
 - e. Manufacturing - Manufacturing work with uranium must be performed in a properly posted room. Contamination is to be controlled by papering table tops etc., and use of disposable gloves and lab coats. Work in a hood is

ATTACHMENT 2.2

- e. recommended but not required. All waste materials are disposed as radiological waste and periodic contamination surveys are taken.
- f. Inspection - Minimal contamination control is required for this job. All inspectors should wear gloves when handling uranium. Periodic contamination surveys are taken.
- g. Shipping - All radioactive materials, including depleted uranium, should be marked with an appropriate shipping tag before shipment. Safety must take a radiation and contamination survey to assure all radiological shipping regulations are met.

I Miscellaneous Suggestions:

- A. The maximum amount of material to be handled at any one time should not exceed 100 lbs.
- B. The material should not be transported, carried or shipped to any location except by using proper shipping procedures.
- C. Operations causing contamination levels high enough to require a respirator should not be allowed. All high level contamination must be controlled by hoods with positive air flows.
- D. All Personnel actively engaged in uranium work should be trained in the problems involved when working with radioactive materials.

II Emergency Procedure:

- A. An emergency is defined as a spill involving the spread of uranium dust.
- B. The immediate response of all personnel in the area is to hold their breath and leave the room.
- C. The Health Physicist or Safety Office should be called for assistance.

ATTACHMENT 2.3

- D. While waiting for assistance all involved personnel should:
- a. Limit the spill to the room (i.e. close all doors etc.).
 - b. Remain in one area to limit spread of contamination.
- E. The Health Physicist or his designee will direct all subsequent operations. He will:
- a. Survey the area and evaluate the extent of the emergency.
 - b. Survey all personnel involved.
 - c. Supervise decontamination of all personnel, if necessary.
 - d. Supervise decontamination of the room.

ATTACHMENT 3

1. The manager of the component using radioactive materials must be approved by the Ionizing Radiation Advisory Group (IRAG). Members of the IRAG include:

Chairman - C. B. Chilton, Manager - Industrial Safety Engineering
Secretary - J. S. Davis, Health Physicist
Member - J. R. Ficke, M.D., Medical Director

Supervisory personnel and radiation workers receive a basic course in radiological health to inform them of the biological hazards associated with ionizing radiation and the protective measures to be taken, to reduce their exposure.

The person responsible for the Radiation Safety Program is the Health Physicist, J. S. Davis. His resume is attached.

2. Personnel monitoring devices are supplied by Teledyne - Isotopes Co., 50 Van Buren Avenue, Westwood, New Jersey. This is a TLD type service.
3. Waste Disposal services are supplied by Radiological Service Co., 50 Van Buren Avenue, Westwood, New Jersey. (A division of Teledyne-Isotopes.) In general about 50% of material received is discarded as solid waste, which includes protective coverings, kimwipes, paper towels, mixing cans, etc. Approximately 2 - 3, 55 gallon waste drums are used each month.

ATTACHMENT 3A

QUALIFICATION OF GE - RADIATION PROTECTION OFFICER (RPO)

JORDON S. DAVIS

A. Education:

1. BS in Pharmacy; Philadelphia College of Pharmacy and Science -
2. MS in Radiological Health; Temple University School of Pharmacy - 1965 (US PHS Fellowship)
3. U.S. Department HEW, Division of Radiological Health Training Courses in:
 - a. Applied Radiation Protection
 - b. Management of Radiation Accidents

EX 6
(b)(6)

B. Experience:

1964-1969 Radiation Health Physicist for the Pennsylvania Department of Health. Primary responsibilities were in evaluating and conducting compliance inspections of the users of radiation sources within the Commonwealth. Since I was responsible for radiation protection services for one-third of the state, I have also acted as a consultant for the management of radiation accidents occurring in this area.

1969-Present Health Physicist for the General Electric Company, Re-entry and Environmental Systems Division. Primary responsibilities were to insure compliance with all applicable radiation control regulations and to provide technical assistance in the handling of various sources.

C. Experience with Radiation

Isotope	Maximum Amount	Employer	Duration	Type of Use
1. Radium	0.2 Ci	Pa. Dept. of Health	5 years	Inspection & Emergency
2. Any By-Product Material	0.1 Ci	Pa. Dept. of Health	5 years	Inspection & Emergency
3. Any By-Product Material	3 Ci	GE/RESD	4 years	HP Evaluation

ATTACHMENT 4

<u>TYPE OF INSTRUMENT</u>	<u>NUMBER AVAILABLE</u>	<u>RADIATION DETECTED</u>	<u>SENSITIVITY</u>	<u>WINDOW THICKNESS</u>	<u>USE</u>
1. Victoreen Model 440	1	Beta-Gamma	0-300 mr/hr	1 mg/cm ²	Surveying & measuring

2. Eberline Model E-120	1	Beta-Gamma	0-50 mr/hr	30 mg/cm ²	Measuring

3. Wm. B. Johnson & Ass. Model ASP-2A Alpha scintillation probe on Model GSM-5 survey meter	1	Alpha	0 to 50,000 cpm		Surveying & measuring smears and air samples

4. Gast Air Pump (Whatman #41 filter)	2				Air sample counted on alpha Scin- tillation probe

ATTACHMENT 5

1. The Victoreen model 440, Eberline Model E-120 are calibrated using a technical operations, 15 mc Co⁶⁰ calibration kit. The instruments are calibrated yearly and spot checked as needed.
2. The Johnson's Assc. model ASP-2A Alpha scintillation probe on the model GSM-5 survey meter is calibrated using a depleted uranium standard and/or a thorium ²³² standard, whenever the probe is used.
3. Thermoluminescent dosimeters are supplied by Teledyne-Isotopes on a quarterly basis.