

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

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 checked="" type="checkbox"/> (b) Amendment to License No. <u>SUB 459</u></p> <p><input checked="" type="checkbox"/> (c) Renewal of License No. <u>SUB 459</u></p> <p><input type="checkbox"/> (d) Previous License No. _____</p>	<p>2. NAME OF APPLICANT</p> <p>Department of the Army</p> <p>3. PRINCIPAL BUSINESS ADDRESS</p> <p>Washington 25, D. C.</p>																
<p>4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED United States Army Munitions Command Complex (Frankford Arsenal, Picatinny Arsenal, Edgewood Arsenal and Lake City Ordnance Plant-Locations)</p>																	
<p>5. BUSINESS OR OCCUPATION</p> <p>U. S. Government</p>	<p>6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP</p> <p>(b) AGE</p>																
<p>7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED Because of it's high density, Uranium is a desirable structural material, when high-density material is required to meet the needs of the Army Material Program.</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>U₂F₆</td> <td></td> <td>No quantity limitation</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>Unknown, since the quantity will be controlled by the number of projects using same</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	U₂F₆		No quantity limitation	THORIUM (ISOTOPE)			
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<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 Supplement #1</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> <table style="width:100%;"> <tr> <td style="width:50%;">Directly Suprv use of Source Material</td> <td style="width:50%;">Radiation Safety Prog.</td> </tr> <tr> <td>Mr. Ralph E. Leelman Metallurgist BS Penna. State 1942</td> <td>Mr. A. A. Haler</td> </tr> <tr> <td>Staff Metallurgist Los Alamos Scientific Lab. 1947-49</td> <td>See Supplement #2</td> </tr> </table>		Directly Suprv use of Source Material	Radiation Safety Prog.	Mr. Ralph E. Leelman Metallurgist BS Penna. State 1942	Mr. A. A. Haler	Staff Metallurgist Los Alamos Scientific Lab. 1947-49	See Supplement #2										
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<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 Supplement #3</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>Calibrated quarterly at Frankford Arsenal using Army "M1" Radioactive Source Set. Film badge service, Lexington Signal Depot, Lexington, Ky.</p>																	

11(c). VENTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT. **Setting: Exhaust is sent through 100% filter. Machining: Exhaust at each machine is sent through 100% filter. For other operations see Supplement #1.**

12. DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

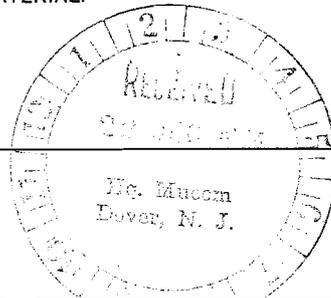
See Supplement #4 Chapter #10

(b) EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

See Supplement #4 Chapter 10

(c) DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

See Supplement #4 Chapter 10



13. WASTE PRODUCTS: If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here and explain on a supplemental sheet:

- (a) Quantity and type of radioactive waste that will be generated.
- (b) Detailed procedures for waste disposal. **See Supplement #4 Chapter 9**

14. IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

- (a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.
- (b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.
- (c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (Specify instrument used, date of calibration and calibration technique used) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.
- (d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

CERTIFICATE

(This item must be completed by applicant)

15. The applicant, and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

(Applicant named in Item 2)

Dated 21 December 1964

BY: Frank Bloche
 Frank Bloche, representative
 Frankford Arsenal
 Philadelphia, Pa. 19137

(Title of certifying official authorized to act on behalf of the applicant)

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

Supplement # 1

APPENDIX

PROCESSING URANIUM - OPERATIONS, HAZARDS AND CONTROL MEASURES

Process	Hazard	Control	Concentration
Melting and Pouring	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere (vacuum) and shielding. Partial shielding, exposure time limited. Respirators required.	None
Mold Break-up and Cleaning	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Uncontrolled Atmospheres (Hot and Gas Piped Furnaces)	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Vacuum Furnaces	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Salt Baths	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Quenching	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
(Any type of heating - including cold working)	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Rolling	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Hammering	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Pressing	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None
Grinding	<p>Excessive oxidation yielding black oxide dust.</p> <p>Internal and external radiation.</p>	Controlled atmosphere. Controlled atmosphere required.	None

