

JACKET NO. 40-⁹⁰⁸~~443~~

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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.

1. (Check one) <input type="checkbox"/> (a) New license <input type="checkbox"/> (b) Amendment to License No. _____ <input checked="" type="checkbox"/> (c) Renewal of License No. <u>STB-665</u> <input type="checkbox"/> (d) Previous License No. _____		2. NAME OF APPLICANT Wah Chang Corporation	
4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED West Decatur Highway Huntsville, Alabama		3. PRINCIPAL BUSINESS ADDRESS 100 Church Street New York 7, New York 10007	
5. BUSINESS OR OCCUPATION Refractory Metals	6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP Not Applicable	(b) AGE	
7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED Welding Electrodes			
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			
(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			
THORIUM (ISOTOPE)	2% ThO ₂ in Tungsten	Powder-Rod 1.75% Th.	Equiv of 20 lbs Th.
(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (in pounds) Equiv. to 70 lbs Th.			
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 Tungsten powder containing 2% by weight ThO ₂ (1.724 % Th) will be compacted, sintered, swaged, drawn, and ground for welding electrodes. Maximum at any stage equivalent to 10 lbs Th. No radiation hazard at any step in the process.			
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). Not Applicable			
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). (a) Not Applicable			
12. 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). (b) Not Applicable			

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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.

(c) Not Applicable

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.

(a) Not Applicable

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

(b) Not Applicable

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

(c) Not Applicable

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. (a) Metallic Scrap Tungsten Containing 1.75% Th. in solution.
- (b) Detailed procedures for waste disposal. (b) Sell as scrap to Refinery.

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

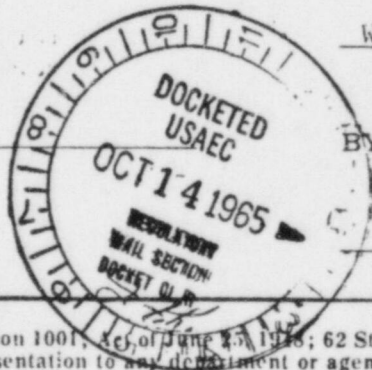
(This item must be completed by applicant)

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.

Wah Chang Corporation

(Applicant named in Item 2)

Dated 10-12-65



BY:

John P. Johnson

(Print or type name under signature)

John P. Johnson, Assistant Manager

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

WARNING: 18 U.S.C. Section 1001, Sec. of June 25, 1958; 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.

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14. (a) Welding rods containing 1.75% Th in solid solution.
(b) No radiation hazard in using welding rods.
(c) Product: Gamma + Beta

Surface - 0.5 mr/hr
12" - 0.1 mr/hr

Gamma

sfc - 0.3 mr/hr
12" - 0.05 mr/hr

Instrument: Picker Geiger Survey Meter calibrated by
Picker Nuclear Instruments 7/12/62 - guaranteed as follows:

Range: 0.5, 5.0, 50 mr/hr full scale \pm 10%
500, 5000, 50000 CFH full scale \pm 10%

Shield Closed - Gamma Radiation
Shield Open - Gamma Radiation plus Beta Rays
above 175 KeV energy.

Film badges processed by Atomic Film Badge Co. showed no
radiation effects on personnel processing 40 lbs of powder
to rod.

- (d) Thorium in solid solution in Tungsten.

