

DOCKET NO

40-17

For Div of Compliance



THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN 48640

March 20, 1970



Mr. Don F. Harmon
Source and Special Nuclear Materials Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Harmon:

Enclosed are four copies of an A.E.C. application for a source material license to amend our License Number STB-527. We wish to amend this license to include our Ludington, Michigan plant, and the amended application pertains to our manufacturing activity in Ludington.

Yours very truly,

W. Otis Heath
Corporate Statistician

Phone 517 636-5714

Enc.

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DOCKET NO. 40-017

FORM AEC-2
(3-64)

For Div of Compliance

Received w/Ltr Dated 3-20-78 BUREAU OF BUDGET NO. 38-R0002

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. <u>STB-527</u> <input type="checkbox"/> (c) Renewal of License No. _____ <input type="checkbox"/> (d) Previous License No. _____		2. NAME OF APPLICANT <u>The Dow Chemical Company</u>	
4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED <u>Midland, Michigan 48640</u>		3. PRINCIPAL BUSINESS ADDRESS <u>Midland, Michigan 48640</u>	
5. BUSINESS OR OCCUPATION <u>Chemical Manufacture</u>		6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP	(b) AGE
7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED Calcination of thorium nitrate to thorium oxide coated on alumina beads (at Ludington Plant) to be used as a catalyst in a chemical production process (in Midland Plant).			
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 XXXXXXXXXXXX	Thorium Compounds Metal	97% as pure pellets	500 lbs.
THORIUM (ISOTOPE)	Oxide or fluoride	3% as Mg alloy Solid thorium nitrate Calcined to 27% thorium oxide on alumina beads	100,000 lbs. 10,000 lbs.
(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE (in pounds)		50,000	
9. DESCRIBE THE CHEMICAL PROCESSES, MECHANICAL PROCESSES, AND OPERATIONS 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. See attached sheet			
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). Health Physicists, Chemical Engineers, Chemists, Radiation Safety Program under direction of H. R. Hoyle, Chemist, with 25 years experience in safety, industrial hygiene and health physics.			
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). Health Physics program includes use of film badges, survey instruments both ionization chamber & Geiger tube, air sampling equipment & proportional counter. Equipment used to check working conditions insuring compliance with 10 CFR 20 & our own regulations.			
(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). Survey meters are calibrated with a radium source each six months. Air sampling equipment calibrated before each use. Film badge service is from R. S. Landauer, Jr.			

