Applicant: 12995 — returned for signature 4/4/80
Check No.: P40(2D)
Amount/Fee Category:
Type of Fee: amendment
Date Check Rec'd: APR 3 1980
Received By: Brown

Telephone 212 244 . 0
201 845 3030

RECEIVED Region I

Dyna-tek

2-D
4/83

MAR 10 AM 8 43

U.S. NUC REG
SECTION

RECEIVED BY LFMB
Date: MAR 13 1980
Log: Amend
By: Brown
Orig. To:
Action Compl. 4/29/80

February 21, 1980

U.S. Nuclear Regulatory Commission
Radioisotopes Licensing Branch
Division of Materials and Fuel Cycle Facility Licensing
Washington, D. C. 20555

Re: License No. STC-1333
Docket No. 40-08610

Gentlemen:

Stepan Chemical Company hereby requests an amendment to its procedures for survey as previously stated in our license application dated March 2, 1977 as follows:

Presently:

1. A thorough airborne radiation survey will be made.

2. Water runoff samples will be check for radiation.

3. "Down Stream" core samples will be checked for radiation.

The survey procedures stated were found to be unnecessary and would not represent radioactive releases due to the nature of the areas which contain the buried alkaline thorium phosphate tailings. Stepan Chemical hired the services of a consultant, Dyna-Tek Ltd. (see attached description and resumes), to resolve this problem in order that full compliance could be achieved. After discussions with Mr. Robert McClintock from the Region I office the consulant concluded that due to the inactivity of the areas, the quantity buried, the nature of the material, and the inaccessibility from unauthorized entry, no surveys are necessary. A license would be maintained only to prohibit Stepan Chemical from selling the property without full acknowledgment of prospective purchasers of the contents secured in those locations.

Therefore, we are requesting that all requirements of surveys and sampling be deleted from the conditions of the license as previously stated.

If there is any additional information that you require, please do not hesitate to contact us.

15715.

Sincerely yours,

Ernest A. Swanson
Ernest A. Swanson
Plant Manager

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PDR FOIA
KOSTERL81-196 PDR

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Encl (12)

STEPAN CHEMICAL COMPANY

Maywood Division

100 WEST HUNTER AVE., MAYWOOD, N. J. 07607

Telephone
(212) 524-0731
(201) 845-3030
Cable Address
SCHAEFER MAYWOOD, N. J.

April 22, 1971

DOCKET NO. 40-1947

Regulatory File Cy.

Mr. Robert L. Layfield
Material Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Layfield:

This will acknowledge receipt of your letter of April 7, 1971. Regarding by-product material (Hydrogen 3) held under license number 29-13725-01, we do have some of the tritiated material in our possession. Therefore, we are enclosing our check for $40.00 covering the cost of the Specific Material License required.

As we discussed, Stepan no longer produces or uses Thorium products. Several years ago the buildings were decontaminated, disassembled and disposition was made of all materials. All of the waste tailings from the Thorium processing which were stored above ground were relocated to underground sites on our property. The former storage areas for the waste tailings were then freed for unrestricted use by the Atomic Energy Commission. Reference can be made to letter dated September 6, 1968 from Mr. Don Harmon of the Atomic Energy Commission. A copy of this letter is enclosed.

Mr. Don Harmon in his letter of June 15, 1968, copy of which is enclosed, indicated that we could file for licensing release or termination of our existing license for the waste tailings stored underground if we would agree to insert an appropriate notation in the land records indicating the amount and location of the buried waste tailings.

The waste tailings have been buried at several locations on our property. Each excavation was made to approximately 15 feet and during the excavation no ground water or underground water was encountered. Approximately 3 to 4 feet of covering has been used at each burial location. All of the burial sites have good drainage and none are near existing drainage systems.

We trust that the above information will suffice and that you will be able to process our application for termination of our existing license. If you have any questions regarding the above or require additional information, please let us know.

Very truly yours,

STEPAN CHEMICAL COMPANY
Maywood Division

E. A. Swanson
Director of Production
and Engineering

EAS:jg
Encs. 3

Applicant Stepan Chemical
Check No. # 64950
Amount $40
Date of Check
Date Check Rec'd 4/27/71

v40-8610

DEC 13 1976

~~IE-11595~~
29-13725-02

P. R. Nelson, Chief
Fuel Facility and Materials Safety Branch
Region I

STEPAN CHEMICAL COMPANY, MAYWOOD, NEW JERSEY

Prior to May 31, 1972, the subject company was authorized by Source Material License No. STC-130 to store thorium. License No. STC-130 was allowed to expire on May 31, 1972; however, the licensee possessed at that time and apparently still possesses roughly 250,000 ft.^{3} of thorium residues which are buried on their property.

Please contact members of Stepan Chemical Co. management and initiate appropriate enforcement action to assure that they apply for renewal of their license.

Original signed by
Gen W. Roy

Gen W. Roy, Chief
Field Coordination and
Enforcement Branch
Division of Field Operations

cc: F. A. Dreher
IE FILES

PDR-
8103260354

OFFICE ▶	IE:FOSB	IE:FOSB,AC	IE:FCEB,C			
SURNAME ▶	GSmith:mlm	SEBryan	GWRoy			
DATE ▶	12/10/76	12/10/76	12/17/76			

AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1974-526-166

MATERIALS LICENSE

I 4c

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

7K

Licensee	
1. Stepan Chemical Company	3. License number STC-1333
2. 100 West Hunter Avenue Maywood, New Jersey 07607	4. Expiration date April 30, 1983
	5. Docket or Reference No. 040-08610

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
Thorium	Alkaline Thorium Phosphate Tailings	As contained in 9,500 cubic yards of buried tailings

9. Authorized use

Underground storage at Stepan Chemical Company, 100 West Hunter Avenue, Maywood, New Jersey.

CONDITIONS

10. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

11. The underground storage shall be under the supervision of, E. A. Swanson.

12. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated March 2, 1977.

Date APR 4 1978

For the U. S. Nuclear Regulatory Commission
Original Signed By:
NATHAN BASSIN
by Radioisotopes Licensing Branch
Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

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PDR

8103040539

Encl (24)

TELEDYNE
ISOTOPES

50 VAN BUREN AVENUE

WESTWOOD, NEW JERSEY 07675

(201) 664-7070 TELEX 134472

July 19, 1978

Mr. Swanson
Stepan Chemical Company
100 West Hunter Avenue
Maywood, New Jersey 07607

Dear Mr. Swanson:

On July 5, 1978, Health Physics surveys were performed on the two thorium-232 burial sites located at Stepan Chemical Company in Maywood, New Jersey (see diagram).

Both sites were monitored for surface contamination with a PAC-4G gas proportional survey meter and an Eberline Model E-120 end window G-M survey meter. Results are enclosed.

If you need further assistance, please contact me.

Sincerely,

TELEDYNE ISOTOPES

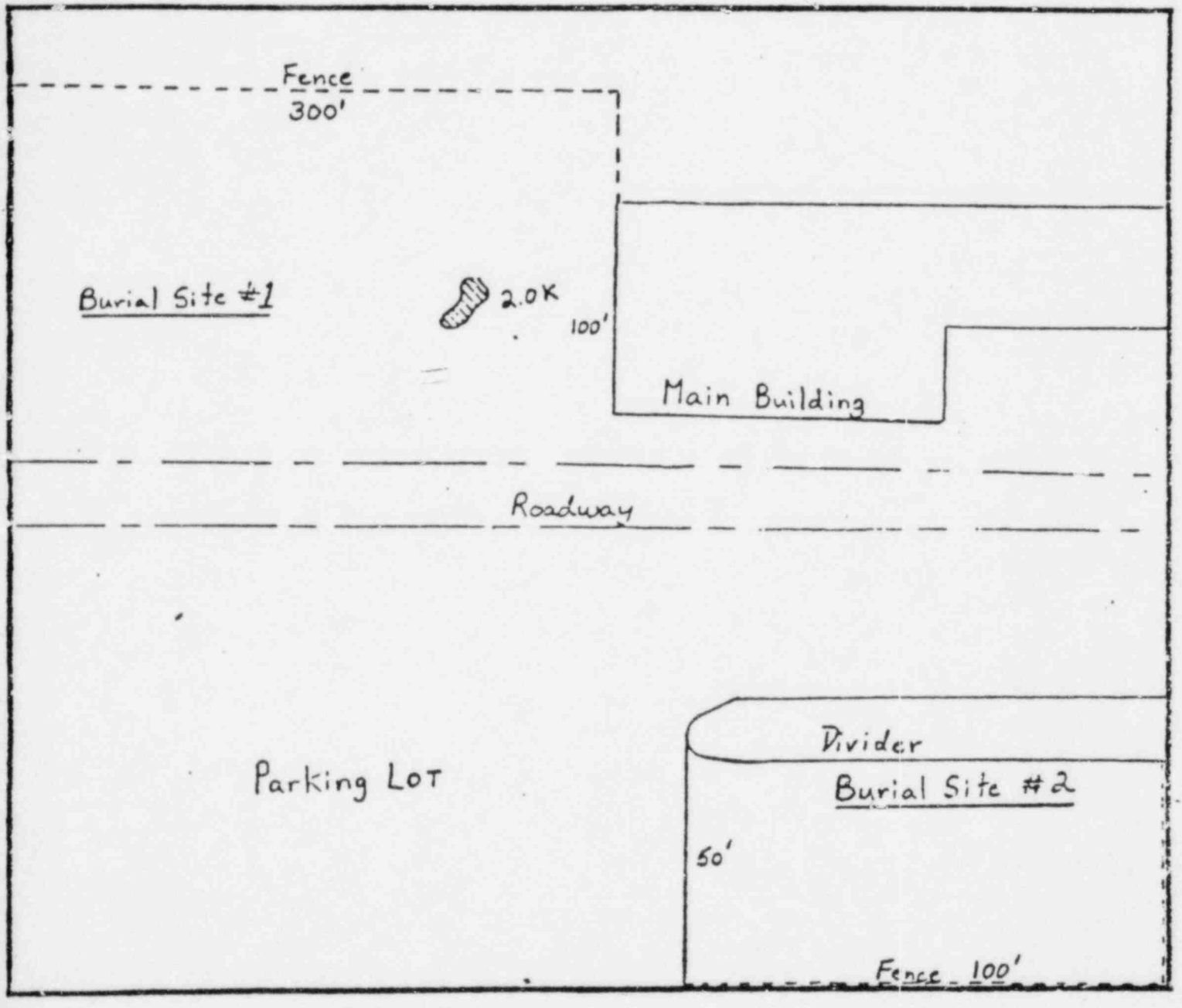
Steven A. Black, Supervisor
Associate Health Physicist
Radiological Services Department

SAB:to

DIAGRAM OF SURVEYED AREA

TELEDYNE ISOTOPES

LOCATION Stepan Chemical Company



Note: PAC-4G - all levels are noted as 1,000 cpm/61 cm^2
(e.g., 1.0K = 1,000 cpm/61 cm^2

E-120 - all levels were < 0.2 mR/hr

Westwood Laboratories, 50 Van Buren Place, Westwood, New Jersey 07675. Phone: 201-664-7070 TWX: 710-990-7503

Encl (25)

Dyna-Tek Ltd.

Executive Offices: 127 KINDERKAMACK ROAD • PARK RIDGE • NEW JERSEY 07656 201-391-1

Midwest Regional Office:
219 FREMONT AVENUE
SANDUSKY, OHIO 44870
419-625-3753

February 27, 1980

Mr. Ernest Swanson, Plant Manager
Stepan Chemical Company
100 West Hunter Ave.
Maywood, N.J. 07607

Dear Mr. Swanson:

Enclosed please find the following items which complete the project requirements as specified.

1. Survey Diagram - The diagram indicates the areas that were surveyed ("cross-hatched") with an Eberline Model E-120 G.M. survey meter with a HP-190 end-window probe. The survey was performed in grid fashion with distances of three feet apart holding the instrument at waist level. Any supurious readings were checked at closer levels to determine the authenticity. All readings were found to be 0.04 mR/hr.

2. Report of Analyses - The results of the soil samples are indicated for each respective location. Location of the soil samples may be found by cross-referencing the Report of Analysis with the Survey Diagram.

3. Letter to NRC for License No. 29-13725-02 - This letter is to terminate the license covering the storage of tritium. Retype this letter on your letterhead and forward to the address specified. Please forward any correspondence that you receive to me to complete my files.

4. Letter to NRC for License No. STC-1333 - This letter is to amend the requirements for survey of the locations where the thorium is buried. Retype this letter on your letterhead and forward to the address specified. Please forward any correspondence that you receive to me to complete my files.

5. Invoice No. 1001 - Enclosed you will find the invoice for $750.00. Please reference the invoice number on the check.

February 27, 1980

If you have any questions or require any additional assistance, please do not hesitate to contact us.

Yours sincerely,

DYNA-TEK LTD.

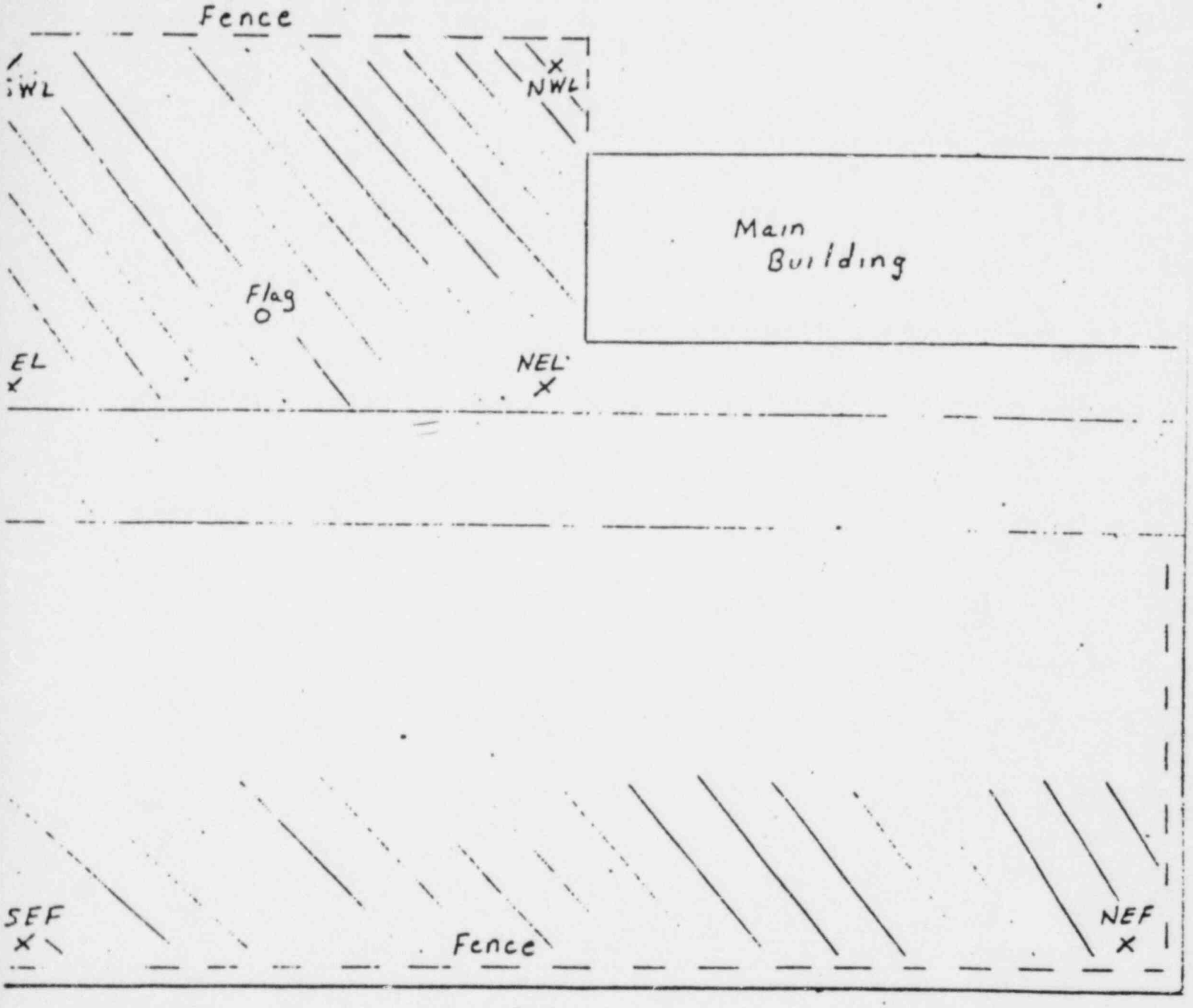
Douglas R. Fuhrman
Executive Director

DRF/rj

Enclosures

Survey Diagram

Location: STEPAN CHEMICAL



Survey Results:

All readings in cross-hatched areas <0.04 mR/hr.

Instrument:

Eberline Model E-120 with HP-190 (end-window probe)

Survey Technique:

Instrument held at waist level walking in parallel lines three feet apart.

Report of Analysis

Location: STEPAN CHEMICAL COMPANY Type: Soil Analysis

Description		Th-232 Activity (pC/gm)		
SWL (see diagram)		$5x10^{-1}$		
SEL " "		$5x10^{-1}$		
NWL " "		$5x10^{-1}$		
NEL " "		$5x10^{-1}$		
SEF " "		$5x10^{-1}$		
NEF " "		$5x10^{-1}$		

Encl (16)

REGULATORY FILE CY

FORM AEC-2 (3-64)

FORM APPROVED BUREAU OF BUDGET NO. 38-R0002.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

40-8610

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)
   - ☐ (a) New license
   - ☐ (b) Amendment to License No.
   - ☒ (c) Renewal of License No. STC-130
   - ☐ (d) Previous License No.

2. NAME OF APPLICANT: Stepan Chemical Company

3. PRINCIPAL BUSINESS ADDRESS: 1oo W. Hunter Avenue, Maywood, N J 07607

4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED: Same

RECEIVED BY LFMB
Date 3/7/77
Time 3:30 pm
By SC
From
Cy to
Action Compl. 3-7-77

5. BUSINESS OR OCCUPATION: Chemical Manufacturing

6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP: ---

7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED

Source material is buried on Stepan's property.

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)	Alkaline Thorium phosphate		

Applicant
Check No. 10153
Amount $80-20
Date of Check 3-7-77
Date Check Rec'd 3-7-77
Received By [illegible]

(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (in pounds)

(Estimates) At two locations Approx. 9500 cu.yd of Thorium waste tailings are buried. Thorium content estimated approx 0.10%.

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.

Same material is buried at two sites and will not be used.

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).

E. A. Swanson will be person responsible. An outside consulting firm, Isotopes Inc. of Westwood, NJ willbe used to carry out the annual radiation survey program

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).

Not applicable

PDR

8103260325 6202

(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).

An outside consulting firm, Isotopes INC., of Westwood, NJ will be used

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.

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.

All executives of the company and the Maywood Plant executives in particular have been informed of the company's responsibility to see that no uncontrolled or unauthorized digging of the burial sites occurs.

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

Not applicable

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

The following radiation survey program of both burial sites will be performed annually by a radiation consulting firm: (1) A thorough air born radiation survey will be made. (2) Water runoff samples will be checked radiation. (3) "Down Stream" core samples will be checked for radiation.

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. NONE

(b) Detailed procedures for waste disposal.

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.*

Stepan Chemical Company
(*Applicant named in Item 2*)

Dated March 2, 1977

BY: E. A. Swanson
(*Print or type name under signature*)

Plant Manager
(*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.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1968—O-295-054

Encl (18)