

6/25/65

Form AEC-313
(5-58)ATOMIC ENERGY COMMISSION
APPLICATION FOR BYPRODUCT MATERIAL LICENSEForm approved.
Budget Bureau No. 38-R027.4

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U.S. Atomic Energy Commission, Washington, D.C., 20545. Attention: Isotopes Branch, Division of Licensing and Regulation. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30 and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20.

<p>1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.)</p> <p>U. S. Nuclear Corporation 801 North Lake Street Burbank, California</p> <p>P. O. Box 208</p>	<p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)</p> <p>Dow Corning Corporation Midland, Michigan</p>
<p>2. DEPARTMENT TO USE BYPRODUCT MATERIAL</p> <p>N.A.</p>	<p>3. PREVIOUS LICENSE NUMBER(S). (If this is application for renewal of a license, please indicate and give number.)</p> <p>4-5241-8 (Application for amendment)</p>
<p>4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.)</p> <p>Karl Amlauer J. L. Shepherd R. N. Donelson Thomas Seminoff Philip Gill</p>	<p>5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.)</p> <p>Same as 4.</p>

<p>6. (a) BYPRODUCT MATERIAL (Elements and mass number of each.)</p> <p>Cobalt 60</p>	<p>(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)</p> <p>U. S. Nuclear sealed sources USN Drawing No. B-0177 30,000 curies in 20 capsules</p>
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7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.)

Install and provide initial servicing of U. S. Nuclear Gamma Irradiator
Model E-0117-M-1

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PDR FOIA
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TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

B. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection	See Application for License 4-5241-8 and amendments		Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments			Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity			Yes No	Yes No
d. Biological effects of radiation			Yes No	Yes No

9. EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
See Application for License 4-5241-8 and amendments				

10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
	"	"	"	"	"

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

Prior to each use

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

Film badges - Radiation Detection Co.
Mountain View, California

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) Yes No **None**

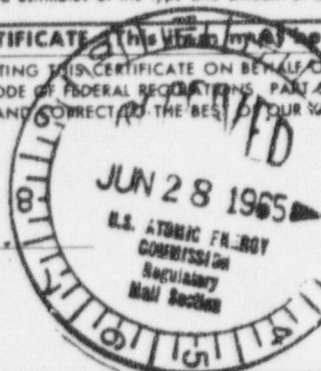
14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source. **See attached "Procedure, etc."**

15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. **None**

CERTIFICATE (This certificate must be completed by applicant)

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 80, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Date **June 25, 1965**



U. S. Nuclear Corporation

Applicant named in item 1

By: **Philip J. Gill**
Vice President

Title of certifying official

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. NUCLEAR CORPORATION

Procedure for Initial Installation
and Servicing of Gamma Irradiator
Model E-0117-M-1

General

1. Assure that customer has applicable AEC (or State) byproduct license for possession and use of the irradiator.
2. All persons involved in the installation are to wear film badges.
3. At least one ionization chamber type survey instrument (Jordan AG-500 or AGB-10K or equal) and one thin window Geiger type instrument (USN Type N-22C or equal) are to be available and operating properly at time of installation.

Assembly

1. Survey irradiator and compare readings with those taken prior to shipment. In the event any radiation limits are exceeded or any damage is discovered which would make the irradiator unsafe to operate, the irradiator is to be returned to U. S. Nuclear for repair.
2. Move main body of irradiator to location and proper orientation.
3. Remove shipping plate and source hold-down devices.
4. Install three top sections on main body.
5. Install mast and lifting arm.
6. Place hydraulics cabinet in proper location.
7. Connect hydraulics from cabinet to irradiator and fill system.
8. Connect electrical cables between hydraulics cabinet and irradiator.
9. Place control cabinet in place.
10. Connect electrical cables to hydraulic cabinet and to power outlets.

Checkout

1. Operate source plates at least ten times both manually and with timer. Observe radiation levels at all points.
2. Operate plug-lift at least 10 times observing radiation levels at cavity and surroundings.
3. Check all safety systems for proper operation.



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Procedure for Initial Installation
and Servicing of Gamma Irradiator
Model E-0117-M-1

Checkout

4. Wipe check source lifting rods at lower extremity of main body and assure that results indicate no contamination.
5. Survey room and surrounding area and assure that all posting requirements of 10 CFR 20 (or applicable State regulations) are met.
6. Issue report of installation to customer.