Application for Reference 2
Amendment 0

with subsequent correspondence
prior to issuance including deletion
of Reference 1

STATE OF NEW YORK

APPLICATION FOR RADIOACTIVE MATERIALS LICENSE

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 New York State Coordinating Council on Atomic Energy Alfred E Smith State Office Building P O Box 7036 Albany 1 New York Attention Committee on Licensing Upon approval of an application the applicant will receive a Radioactive Materials License issued pursuant to statutory and implementing regulatory authority and subject to all applicable rules regulations and orders of all appropriate regulatory agencies now or hereafter in effect and to any conditions specified in the license

1 (a) NAME AND STREET ADDRESS OF APPLICANT (Institution firm hospital person etc)

UNION CARBIDE CORPORATION
Mining and Metals Division
Research and Development Department
4625 Royal Avenue
Niagara Falls, New York 14302

(b) STREET ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED (If different from 1(a))

SAME

2 DEPARTMENT TO USE RADIOACTIVE MATERIAL

Research and Development

3 PREVIOUS LICENSE NUMBERS AND ISSUING AGENCY (If you have ever been denied a license or if your license has ever been revoked or suspended describe details on an additional sheet If this is a renewal please indicate and state license number)

#210-0090

4 INDIVIDUAL USER(S) (Name and title of individual(s) who will use or directly supervise use of radioactive materials State training and experience in Items 8 and 9)

D. C. Burden
J. C. D'Anna
J. H. Deweese

5 RADIATION SAFETY 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)

Hugh J. O'Hear

6 (a) RADIOACTIVE MATERIALS (Elements and mass number of each)

Cesium-137

(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM AMOUNT 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)

Sealed source unit - not to exceed 50 millicuries of Cesium-137 - Industrial Nucleonics Corporation Model S-6

7 DESCRIBE PURPOSE FOR WHICH RADIOACTIVE MATERIALS WILL BE USED (If byproduct material is for human use supplement A 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)

To be used in Industrial Nucleonics Corporation Model LS-101 Source Holder.

UCCNHT0003721

TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEMS 4 AND 5 (Use supplemental sheets if necessary)

8 TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a Principles and practices of radiation protection	We shall follow the instructions		Yes No	Yes No
b Radioactivity measurement standardization and monitoring techniques and instruments	for handling the Model S-6		Yes No	Yes No
c Mathematics and calculations basic to the use and measurement of radioactivity	given to us by Industrial Nucleonics Corporation		Yes No	Yes No
d Biological effects of radiation			Yes No	Yes No

9 EXPERIENCE WITH RADIATION (Actual use of radioactive materials or equivalent experience)

RADIOACTIVE MATERIALS	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
		See item 8		

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/cm²)	USE (Monitoring surveying measuring)
Ray-D-Tec Model ANC-100XL	1		0-100	thin window	Surveying
Count Rate Meter 1615B	1		(500,1500, 5000 (15,000,50,000cpm	1.4mg/cm²	Surveying, Monitoring
Scintillation Detector DS-1	1				Measuring
Scintillation Detector DS-3	1				Measuring
Gas Flow Counter D-47	1			150μg/cm² or windowless	Measuring

11 METHOD FREQUENCY AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE

Instruments are checked every six months, or when needed.
Available sources are Co-60 (Tracer lab R-1, 1.65 x 10^{-5} mc),
C-14 (Tracer lab R-5, 15-20 mr/hr), (Tracer lab C FR-3, 1.75 mc C-14).

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

None required

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

See addenda

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 addenda

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

See addenda

CERTIFICATE (This item 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 ALL INFORMATION CONTAINED IN THIS APPLICATION INCLUDING ANY SUPPLEMENTS ATTACHED HERETO IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF

UNION CARBIDE CORPORATION
Mining and Metals Division

Applicant named in Item 1

Date December 22, 1966

BY C. M. Offenhauer

Assistant Director
Research and Development Department

Title of certifying official

NOTE -- Any misrepresentation of any material fact found to have been made in securing a license pursuant to this application shall constitute cause for the suspension or revocation of such license