

Form AEC-313 (5-58)	SUPPLEMENTARY APPLICATION FOR BYPRODUCT MATERIAL LICENSE	Form approved. Budget Bureau No. 38-R027.4.
<p>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 25, D. C. 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.) Melpar, Inc. 7700 Arlington Blvd. Falls Church, Virginia		(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)
2. DEPARTMENT TO USE BYPRODUCT MATERIAL Research Division		3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) #45-7548-1 (including amendments) (G65)
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.) The sole individual users of Silver (110) and Silver (111) are to be: Lowell F. Lott, Biologist Richard F. Andree, Senior Safety Specialist		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.) No change
6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) ADD as new Subitems K. & L. of Item 6. of existing license K. Silver (110) L. Silver (111)	(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.) ADD as new Subitems K. and L. of Item 7 of existing license: K. Silver nitrate in liquid. (1 mc/ml) L. Silver nitrate in liquid. (0.05 mc/ml) ADD as new Subitems K. and L. of Item 8. of existing license: K. Not to exceed 5 mc. L. Not to exceed 5 mc.	
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.) ADD as new Subitems K. and L. of Item 9. of existing license: K. and L. - To be used (a) for the detection of microorganisms by AG binding; and (b) to determine quantity of AG required to kill microorganisms.		

Information in this record was deleted
 in accordance with the Freedom of Information
 Act, exemptions
 FOIA- 8009-8221

(Continued on reverse side)

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TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (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	see attached sheets		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 attached sheets				

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)
No change					

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

No change

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

No change

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	No change
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 sheet No. 1
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.	Tracerlab will handle waste.

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 THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 30, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Date 25 June 1965

MELPAR, INC.

Applicant named in item 1

By: Dr. P. E. Ritt, Vice President
Research & Engineering

Title of certifying official

Data with Respect to the Training and Experience ofLOWELL F. LOTT(Reference: Items 8 & 9, Form AEC-313)Item 8. Lowell F. Lott, Biologist

B.SC. Biology and Chemistry, Greensboro, College

<u>Type of Training</u>	<u>Where</u>	<u>Duration</u>	<u>On the Job</u>	<u>Forma</u>
a) Principles.....	Smithsonian Inst., Div. of Radiation and Organisms	3 mos.	Yes	No
b) Radioactivity...	Smithsonian Inst.	2 yrs.	Yes	Yes
	George Washington Univ.	5 mos.	Yes	Yes
	Greensboro College	1 yr.	Yes	Yes
c) Mathematics.....	Greensboro College	5 mos.	Yes	Yes
	Smithsonian Inst.	1 yr.	Yes	Yes
d) Biological.....	Smithsonian Inst.	2 yrs.	Yes	Yes
	George Washington Univ.	5 mos.	Yes	Yes

Item 9. Experience with Radiation

<u>Isotope</u>	<u>Max.Amt.</u>	<u>Where</u>	<u>Duration</u>	<u>Type of Use</u>
P ³²	10 mc.	Smithsonian Inst.	2 yrs.	Tracers
S ³⁵	5 mc.	" "	4 mos.	Tracers
Sr ⁹⁰	10 mc.	" "	4 mos.	Calibration
C ¹⁴	10 mc.	" "	2 yrs.	Tracers

Item 14. Radiation Protection Program

All pipettes and glassware used in isotope experiments will be labeled and isolated. Used glassware will be placed in labeled containers for washing. The used solutions not to be analyzed will be cleared of contamination by precipitating the AG isotope with NaCl. The precipitates thus obtained will be stored behind shielding until disposal. All bench surfaces will be covered by absorbent paper which will be removed after each experiment, or immediately in the event of dangerous spillage. All personnel involved will be issued badges and pocket dosimeters. Each lab area involved in experimentation will be monitored during and after use.

Storage: Isotopes will be stored in the original containers behind lead shielding in a hood; the area will be labeled.

Data re Training & Experience of
RICHARD F. ANDREE, Senior Safety
 Specialist.

Re: License #45-7548-1
 (665)

State Univ. of N.Y. (b)(6) Assoc. Applied Science, Industrial Chemistry.
 Hofstra College (b)(6) Assoc. Applied Science, Industrial Management. *Cx6*
 Hofstra University (b)(6) BBA

(Reference: Items 8 & 9, Form AEC-313)

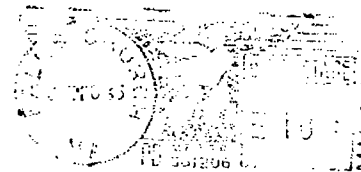
<u>8. Type of Training</u>	<u>Where</u>	<u>Duration of Training</u>	<u>On Job</u>	<u>Formal Course</u>
a. Principles & Practices of Radiation Protection				
	1. St. Albans Naval Hospital	6 mo.	yes	yes
	2. Sylvania Electric Products (Sylcor)	1 yr.	Yes	--
	3. Canisius College, Buffalo, N.Y.	3 days	---	yes
b. Radioactivity Measurement				
	1. St. Albans Naval Hospital (& BNL)	6 mo.	yes	yes
	2. Sylvania Electric Products	1 yr.	yes	--
	3. State Univ. on L.I. (Industrial Chemistry-Instrumental Analysis)	1 semester	---	yes
c. Mathematics & Calculation				
	1. St. Albans Naval Hospital	6 mo.	yes	yes
	2. State Univ. on Long Island (a) Physical Chemistry (b) College Physics	1 semester each	---	yes
d. Biological Effects				
	1. St. Albans Naval Hospital	6 mo.	yes	yes
	2. Sylvania Electric Products	1 yr.	yes	--

9. Experience with Radiation

<u>Isotope</u>	<u>Max. Amt.</u>	<u>Where Exp. Gained</u>	<u>Duration of Exp.</u>	<u>Type of Use</u>
I ¹³¹	> 1 mc	St. Albans Naval Hospital	6 yrs.	I uptake FBI I distribution Brain Tumor Blood Volume
Y ⁹⁰	> 1 mc	St. Albans Naval Hospital & BNL	3yrs.	Cancer Research

Sheet #3

<u>Isotope</u>	<u>Max. Amt.</u>	<u>Where Exp. Gained</u>	<u>Duration of Exp.</u>	<u>Type of Use</u>
(-Ray	< 125 KV	St. Albans Naval Hospital	3 yrs.	Diagnostic
(-Ray	250-1000 KV	St. Albans Naval Hospital	3 yrs.	Therapy
^{235}U ^{235}Pu ^{235}Th	Kg to Tons	Sylvania Electric (Sylcor)	4.5 yrs.	Mfg. of Nuclear fuels
^{233}U ^{233}Pu ^{233}Th	Kg to Tons	Davison Chemical Co.	4 mo.	Scrap Reclamation, Gas to Metal, Solvent Extractio Nuclear fuel mfg.
^{60}Co	4 Kc	Republic Aviation Corp.	3.5 yrs.	Materials Testing
^{235}U	pounds.	Republic Aviation Corp.	3.5 yrs.	Nuclear fuel mfg.
^{226}Ra	1 mc	Republic Aviation Corp.	3.5 yrs.	ionization source
^{137}Cs	1 mc	Republic Aviation Corp.	3.5 yrs.	Night Blindness- O ₂ Study
^{60}Co	5-100KV	Republic Aviation Corp.	3.5 yrs.	Plasma Devices
(-Ray	250 KV	Republic Aviation Corp.	3.5 yrs.	Materials Q.C.
^{32}P	100 mc	Melpar, Inc.	6 mo.	Tracers
^{131}I	2 C	Melpar, Inc.	6 mo.	Tracers
^{14}C	400 mc	Melpar, Inc.	6 mo.	Tracers



Atomic Energy Commission

Attn: Mr. Robert E. Brinkman,
Isotopes Branch, Division of
Licensing and Regulation

Washington, D. C.