

APPLICATION FOR BYPRODUCT MATERIAL LICENSE—
USE OF SEALED SOURCES IN RADIOGRAPHYForm approved
Budget Bureau No. 39-8137

SEE ATTACHED FORM AEC-313R INSTRUCTIONS—USE SUPPLEMENTAL SHEET WHERE NECESSARY
BE SURE ALL ITEMS ARE COMPLETED AND THAT ALL NECESSARY ATTACHMENTS ARE FURNISHED. IF ANY PORTION
OF THE APPLICATION IS NOT APPLICABLE SPECIFICALLY SO STATE. DEFICIENT OR INCOMPLETE APPLICATIONS
MAY BE RETURNED WITHOUT CONSIDERATION.

1(a) NAME AND ADDRESS OF APPLICANT

St. Louis Testing Laboratories, Inc.
2810 Clark Avenue
St. Louis, Missouri 63103

2. PREVIOUS LICENSE NUMBER(S) (Indicate if application is for renewal or amendment
of an existing byproduct material license.)

24-188-2-(J68) Amendment

1(b) APPLICANT IS: An individual ☐ A partnership ☐ A Corporation ☒ An
Unincorporated Association ☐ Other ☐ If applicant is other than an individ-
ual, the applicable section on the reverse side must be completed.

3. LOCATION(S) WHERE SEALED SOURCES WILL BE USED AND/OR STORED (If use
will be made in states other than named in 1(a), they should be listed here.)
Temporary jobsites throughout the United
States except in Agreement States and defined
in section 30.4 (u) of Title 10, Code of
Federal Regulations Part 30.

4. SEALED SOURCES TO BE USED IN RADIOGRAPHY

BYPRODUCT MATERIAL (Element and Mass No.)	SOURCE MODEL NUMBER	NAME OF MANUFACTURER	MAXIMUM ACTIVITY PER SOURCE	NUMBER OF SOURCES
A. See B. Attachment C. #1	A. See B. Attachment C. #1	A. See B. Attachment C. #1	A. See B. Attachment C. #1	A. See B. Attachment C. #1

5. RADIOGRAPHIC EXPOSURE DEVICES AND/OR STORAGE CONTAINERS TO BE USED WITH SOURCES LISTED ABOVE

MODEL NUMBER	NAME OF MANUFACTURER (If custom made, attach complete design specification.)
A. STL-KBT-11	A. St. Louis Testing Laboratories, Inc. design specification previously submitted and approved.
B. KBT-12C	B. same
C. 469	C. Technical Operations

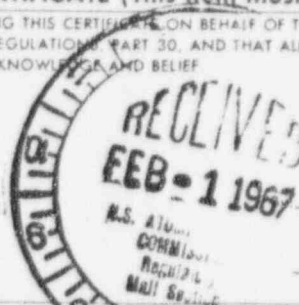
6. THE FOLLOWING INFORMATION IS ATTACHED AS A PART OF THIS APPLICATION. (Check appropriate blocks and attach information called for in the instructions with this form.)

	Not Applicable	Attached	Previously Submitted
(a) Description of radiographic facilities (Instruction 6-a)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 8-20-64
(b) Description of radiation detection instruments to be used (Instruction 6-b)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 5-12-61
(c) Instrument calibration procedures (Instruction 6-c)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 5-25-61
(d) Personnel monitoring equipment (Instruction 6-d)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 5-12-61
(e) Operating and emergency procedures (Instruction 6-e)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 8-25-61
(f) Training program (Instruction 6-f)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 8-25-61
(g) Internal inspection system or other management control (Instruction 6-g)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 8-25-61
(h) Overall organizational structure (Instruction 6-h)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on 5-12-61
(i) Leak testing procedures (Instruction 6-i)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> on 6-15-66

CERTIFICATE (This item must be completed by applicant)

7. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CON-
FORMITY 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: 1-9-67



ST. LOUIS TESTING LABORATORIES, INC.

Applicant Named in Item 1

Director

Title of Certifying Official

WARNING.—18 U.S.C., Section 1001, Act of June 25, 1949, 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.

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LEGAL STRUCTURE OF APPLICANT

If applicant is a corporation, complete Items 8 through 11; if applicant is a partnership, complete Items 12 through 14; if applicant is an unincorporated association or a legal entity other than a partnership or corporation, complete Items 15 and 16. Attach separate sheets where space provided proves inadequate.

CORPORATION

8. STOCK OF APPLICANT CORPORATION

NO. OF SHARES AUTHORIZED	NO. OF SHARES ISSUED	NO. OF SHARES SUBSCRIBED	TOTAL NUMBER OF	
			(a) Stockholders	(b) Subscribers
3000	60		3	0

9. Is applicant corporation directly or indirectly controlled by another corporation or other legal entity?

YES ☐NO ☐

If answer is "YES," give name and address of other corporation or other legal entity and describe how such control exists and the extent thereof.

C. D. Trowbridge 1035 Grand, Edwardsville, Illinois
 Mary E. Trowbridge 1035 Grand, Edwardsville, Illinois
 R. H. McRoberts, Jr. 6947 Pershing, St. Louis, Missouri

10. (a) Identify by name and address any individual, corporation, or other legal entity (1) owning 10 percent or more of the stock of applicant corporation issued and outstanding or (2) subscribing to 10 percent or more of the authorized but unissued stock of the corporation.

(b) Identify by name and address all officers and directors of the corporation.

11. Identify the State, District, Territory, or possession under the laws of which the applicant is incorporated.

PARTNERSHIP

12. Name and address of each individual or legal entity owning a partnership interest in the applicant.

13. State the percent of ownership of the applicant partnership held by each of the individuals or legal entities listed in Item 12.

14. Identify the State, District, Territory, or possession under the laws of which the applicant partnership is organized.

OTHER

15. Describe the nature of the applicant and identify the State, District, Territory, or possession under the laws of which it is organized.

16. State the total number of members or persons holding an ownership in the applicant, identify each by name and address, and indicate the ownership interest thereof.

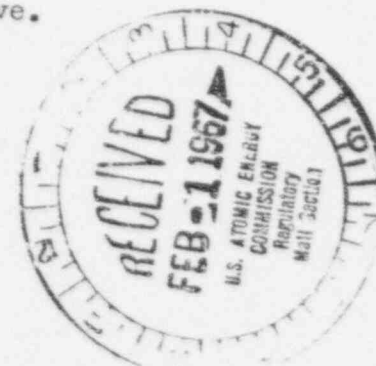
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4. Sealed Sources to be used in Radiography

<u>BY-PRODUCT MATERIAL</u>	<u>SOURCE MODEL NUMBER</u>	<u>NAME OF MANUFACTURER</u>	<u>MAXIMUM ACTIVITY PER SOURCE</u>	<u>NUMBER OF SOURCES</u>
Iridium 192	Sealed Sources (AECL Type SRC-3) (capsule type C-164)	Atomic Energy of Canada Ltd. or Oak Ridge National Laboratories.	No single source to exceed 40 curies Total: 350 curies per amendment No. 8.	
Cobalt 60	Model #30	Isotope Specialties	10 Curies	1
Iridium 192	Model A-424-1	Technical Operations	No single source to exceed 10 curies. Total: 350 curies per amendment No. 6.	
Cobalt 60	Model NCC-1C-S	Nuclear Consultants Corporation	25 Millicuries	1

5. Radiographic Exposure Devices and/or Storage Containers to be used with sources listed above.

<u>MODEL NUMBER</u>	<u>NAME OF MANUFACTURER</u>
NCC-IS-25	Nuclear Consultants Corporation
Storage Container STIA	St. Louis Testing Laboratories, Incorporated design specifications previously submitted and approved.
Storage Container STLB	St. Louis Testing Laboratories, Incorporated design specifications previously submitted and approved.


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ATTACHMENT II

6. (i) Leak Testing Procedures

(1) METHOD

Sealed Sources to be Tested

Leak tests may be performed on sealed sources authorized by AEC License No. 24-00188-02, as well as additional IR^{192} and CO^{60} sealed sources in the possession of other licensees. The wipes shall be performed by the following personnel:

1. Authorized personnel of Licensees specifically licensed to use St. Louis Testing Laboratories, Inc. "Leak Test Kits".
2. Authorized personnel of St. Louis Testing Laboratories, Inc.

Leak Test Kits

Leak Test Kits will be supplied to Licensees specifically licensed to use the St. Louis Testing Laboratories, Inc. "Leak Test Kit". (See Attachment III)

Principle of the Method

Most radiographic sources emit gamma radiation. The radioactive Material is also a beta emitter (CO^{60} , Cs^{137} , etc.) If the source capsule is leaking and a cotton swab wipe is made on the outside surface, some of the radioactive material will rub off on the cotton swab. The number of beta particles emitted from the cotton swab per minute is proportional to the amount of radioactive materials on the cotton swab. The amount of material present is determined by counting the beta particles being emitted.

Procedure

Each sealed source or the nearest accessible point to the source storage position will be wiped with an alcohol saturated cotton swab.

The Eberline Model RM-3A with HP-180 end window Geiger counter and SH-2 sample holder will be used to compare the beta activity of the wipe with a 0.005 uc Tc^{99} beta source (*). If the amount of radioactive material exceeds 0.005 uc, the amount will be estimated as follows: Subtract the background count from the counts obtained with the Tc^{99} source and from the counts obtained with the cotton swab. Divide net c/m for the cotton swab by net c/m for the source and multiply this ratio by 0.005 uc.

If the number of beta particles emitted from the wipe is less than from a 0.005 uc beta source, the source will then be considered as not leaking. If it is more than this, the source will be considered a leaking source.

ATTACHMENT II (Cont.)

SH-2 Sample Holder

Sample Holder Position: With respect to distance from detector window in probe to top of sample holder slide: $5/16"$, $7/16"$, $9/16"$, $25/32"$, $1\ 1/32"$, $1\ 3/8"$, $1\ 25/32"$, $2\ 19/64"$, $2\ 51/64"$.

Dimensions: 4 inches long x $25/8$ inches wide x 4 inches high.

Finish: Clear sulphuric, anodize with enamel filled engraved nomenclature.

Material: 2024-T Aluminum

Weight: $1\frac{1}{2}$ pounds.

ATTACHMENT III

LEAK TEST KITS

St. Louis Testing Laboratories, Inc. Leak Test Kits will be comprised of the following:

1. Cotton swab (wooden shaft approximately 4" long with cotton tip)
2. Small screw top vial containing a small amount of alcohol.
3. Padded protective return mailing envelope.
4. Adhesive Label
5. Instruction sheet (See attachment V)

INSTRUCTIONS

The Leak Test Kit is comprised of the following items:

1. Cotton Swab (wooden shaft approx. 4" long)
2. Small screw top vial containing a small amount of alcohol.
3. Adhesive label.
4. Padded protective return mailing envelope.

The cotton swab is to be used to wipe the sealed source or the nearest accessible point to the source storage position. This is accomplished by first opening the small glass vial containing the alcohol and inserting the cotton tipped end of the swab into the vial. When the cotton tip is completely saturated with the alcohol, withdraw the swab from the vial and use it to wipe the sealed source or the nearest accessible point to the source storage position. Upon completion of the wipe, the end of the swab containing the cotton tip is again inserted into the glass vial and the wooden shaft broken off to permit replacement of the screw cap. After you have secured the screw cap on the vial containing the cotton swab, you are ready to affix the adhesive label to the vial. This label must contain the following information.

Date

Type of Isotope

Source Identification

Repeat the above steps for each sealed source to be leak tested, always being sure to place only one sample in each vial.

After all sources have been wiped and the wipes secured in the vials and the vials labeled, they are to be placed in the padded protective mailing envelope and mailed to St. Louis Testing Laboratories, Inc. for evaluation.

