

APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

a. NEW LICENSE

b. AMENDMENT TO  
LICENSE NUMBER

c. RENEWAL OF  
LICENSE NUMBER

X 25-19316-01

2. APPLICANT'S NAME (Institution, firm, person, etc.)

Robert Peccia & Associates

TELEPHONE NUMBER AREA CODE - NUMBER EXTENSION  
(406) 442-8160

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Robert Peccia

TELEPHONE NUMBER AREA CODE - NUMBER EXTENSION  
(406) 442-8160

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

810 Hialeah Court, Box 4518  
Helena, Montana 59601

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED  
(Include Zip Code)

Primary storage at 810 Hialeah Ct., Helena, MT 59601  
Used at temporary job sites within the State of Montana.

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL

(See Items 16 and 17 for required training and experience of each individual named below)

FULL NAME

TITLE

a. Douglas E. Widmayer

Civil Engineer

b. \*See Attached Sheet

c.

7. RADIATION PROTECTION OFFICER

Douglas E. Widmayer

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

B LICENSED MATERIAL

L I N E  NO.	ELEMENT AND MASS NUMBER  A	CHEMICAL AND/OR PHYSICAL FORM  B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)  C	MAXIMUM NUMBER OF MILLCURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME  D
(1)	Cesium 137	Sealed Source	Troxler A-102112	Two Sources 8mCi (ea.)
(2)	Americium 241	Sealed Source	Troxler A-102541	Two Sources 40mCi (ea.)
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL  
E

(1) Sealed in two Troxler Electronic Laboratories, Inc. Model 3411 Surface Gauges which will be used to  
(2) measure the moisture and density of engineering materials.

(3) License Fee Information

(4) see 3/28/85 ltr.

## 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Portable Moisture-Density Gauge	Troxler Electronics Lab.	3411
(2)	Portable Moisture-Density Gauge	Troxler Electronics Lab.	3411
(3)			
(4)			

## 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A.	MANUFACTURER'S NAME B.	MODEL NUMBER C.	NUMBER AVAILABLE D.	RADIATION DETECTED (alpha, beta, gamma, neutron) E.	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F.
(1)	N/A					
(2)						
(3)						
(4)						

## 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input checked="" type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY  N/A	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments  N/A
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## 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A.	SUPPLIER (Service Company) B.	EXCHANGE FREQUENCY C.
<input checked="" type="checkbox"/> (1) FILM BADGE  <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)  <input type="checkbox"/> (3) OTHER (Specify) _____	R.S. Landauer, Jr. & Company Glenwood Science Park Glenwood, IL 60425	<input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify) _____

## 13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

<input type="checkbox"/> a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC
<input checked="" type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC
<input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC
<input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC

## 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED Source will be returned to the manufacturer.
b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE

# INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
  - a. Principles and practices of radiation protection.
  - b. Radioactivity measurement standardization and monitoring techniques and instruments.
  - c. Mathematics and calculations basic to the use and measurement of radioactivity.
  - d. Biological effects of radiation.
17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

NONE

## 18. CERTIFICATE

(This item must be completed by applicant)

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 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

**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.

a. LICENSE FEE REQUIRED  
(See Section 170.31, 10 CFR 170)

\$120.00

(1) LICENSE FEE CATEGORY

3 - P

(2) LICENSE FEE ENCLOSED \$ 120.00

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

Robert J. Peccia

d. TITLE

President, Robert Peccia & Associates

e. DATE

3/28/85

INDIVIDUALS WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL:

<u>Full Name</u>	<u>Title</u>
1. Douglas E. Widmayer	Civil Engineer ✓
2. Gary M. Swanson	Environmental Engineer ✓
3. Francis J. Kerins, Jr.	Mining Engineer ✓
4. Keith A. Jensen	Civil Engineer ✓
5. Mark A. Smith	Engineering Technician ✓
6. David M. Zimmer	Engineering Technician ✓

## ITEM 15

Robert Peccia & Associates  
810 Hialeah Court, Box 4518  
Helena, Montana 59601  
406/442-8160

### RADIATION SAFETY PROGRAM

#### A. Safety Procedures

1. Do not operate or attempt to operate a gauge unless you have been authorized to do so.
2. Follow established operating procedures when using the gauge.
3. Do not attempt to repair, modify or open the sealed source under any circumstances.
4. Wear a film badge at all times while operating or transporting a gauge.
5. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification of the additional dose.
6. Keep all unauthorized persons out of the operating area. A suggested distance is five meters (fifteen feet). The general public must not be unnecessarily exposed to radiation.
7. Keep the gauge in the "SAFE" or storage position when not in use.
8. Be sure that the source lock is in place when not in use. The gauge is to be locked within an authorized enclosure (e.g., closet, cabinet, vehicle, etc.) when it is not in use. Security against the theft of a radioisotope is of utmost importance and must not be neglected. The storage enclosure should be plainly labeled with a radiation warning sign of the approved type.
9. Gauge(s) may only be transported by authorized personnel in approved vehicles. The gauge(s) may not be transported on the front or rear seats of any vehicle. If a pickup truck is used, the gauge(s) must be locked in an enclosure (e.g., cabinet, shipping case, etc.) and the enclosure tied securely (e.g., chained, bolted, etc.) to the body of the truck in order to prevent loss or theft.
10. Ensure that the gauge is leak tested at proper intervals. The wipe sample will be collected by the Radiation Safety Officer using Troxler No. 3880 leak test kit. The leak test measurement on the wipe sample will be performed by Troxler Electronics Laboratories, P.O. Box 12057, Cornwallis Road, Research Triangle Park, North Carolina 27709.
11. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer or can obtain one.
12. The gauge is never to be left unattended.

B. Emergency Procedures

1. Accidents

- a. In the event of the possibility of damage to the source or source control mechanism, the operator will keep unauthorized persons at least ten feet from the gauge and prevent removal of the gauge from the site until authorization by the RSO or appropriate authority.
- b. If there is any possibility that the source capsule might be ruptured, then the source capsule location must be covered by a sheet of material (e.g., plastic, tarp, etc.) and held down by weights (e.g., rocks, bags of material, etc.) to prevent scattering of the radioactive material by the elements.
- c. The operator must then immediately notify his Radiation Safety Office of the incident, and give an appraisal of the probable condition of the source.
- d. The Radiation Safety Office will then immediately notify the following authority who will provide instructions and assistance in accordance with the circumstances of the incident:

Region IV USNRC  
Office of Inspection and Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76012

Daytime, nights and holidays  
Phone: (817) 334-2841

2. Source Stolen or Lost

- a. The operator must immediately notify the local police or other law enforcement agency within whose jurisdiction the incident occurred.
- b. The operator must also notify his Radiation Safety Officer, who will in turn notify the authority listed in item B-1-d above.

C. Standard Operating Procedures

1. Field Measurements

The importance of obtaining a set of accurate standard counts cannot be over-emphasized. The accuracy of measurements made with this instrument is directly related to the accuracy of the standard counts.

2. Daily Standard Count

Turn the PWR/TIME switch to the SLOW position and locate the instrument on the Reference Standard.

Remove the lock from the trigger and make certain that the handle is indexed in the standard or safe position.

Do not proceed unless gauge power has been on for at least ten minutes. This time is to allow stabilization of the regulators and detectors.



With the PWR/TIME switch set on SLOW, a set of standard counts can now be accumulated. This is accomplished by:

- 1) depressing and holding down the key labeled SHIFT.
- 2) depressing the STANDARD/MEASURE key and then releasing it.
- 3) releasing the SHIFT key.

The SHIFT and STANDARD/MEASURE keys are interlocked to prevent accidental initiation of a standard count.

After four minutes, the ERR symbol will disappear and the moisture and density standard counts can be displayed by depressing MS and DS, respectively. These counts should be recorded in the gauge standard count log, but they will remain in the memory unless the power is switched OFF.

In general, a sudden shift of more than one percent in the density standard count or two percent in the moisture standard count, as compared to the average of the previous four sets, would indicate some abnormality in gauge operation or procedure.

If an instability is suspected, four or five sets may be run in the field. If the highest and lowest counts are different by more than 25 for density or 12 for moisture, the gauge should be returned to the laboratory and a complete stability check run.

### 3. Site Preparation

In order to obtain optimum accuracy from the gauge, site preparation is normally required. The method for site preparation varies, depending on the surface and the type of test to be performed.

#### a. Embankment or Subgrade

Using the scraper plate supplied with the instrument, carefully scrape the surface to a smooth condition, removing all dried and loose material. If the scraping action dislodges surface stones, remove them, fill the voids with fine material and lightly tamp the surface.

Place the scraper plate in the middle of the site and drive the drill rod into the soil using a four-pound hammer. Placing one foot on the plate will prevent it from slipping or otherwise damaging the site by allowing the drill rod to move from side to side. The rod should be driven into the soil at least 50 mm (2 inches) further than the depth of measurement.

### CAUTION

WHEN DRIVING THE ROD INTO SOIL, BASE MATERIAL OR HOT ASPHALT, REMEMBER THAT YOU ARE DRIVING A STEEL PIN WITH CONSIDERABLE FORCE. THIS PIN WILL WORK HARDEN OVER A PERIOD OF TIME AND PRODUCE METAL CHIPS WHICH COULD CAUSE INJURY TO THE OPERATOR OR BYSTANDERS. THE USE OF SAFETY GLASSES IS STRONGLY ADVISED.

In most cases, the rod can be withdrawn simply by pulling upward on the rod cap. If required, the scraper can be lifted up and used to lightly tap and pull the rod from the soil. Care should be used to prevent damage to the hole.

Place the instrument over the site so that the source rod lines up with the hole. Depress the trigger and push the handle down to the properly indexed position at the desired depth. With the operator facing the scaler module, pull the gauge towards the operator to seat the source rod against the side of the hole.

b. Base or Subbase

In most cases, the site preparation is the same as for embankments with the exception that more filling may be necessary for surface voids. Graded sand or other material may be necessary in order to obtain a filled surface.

Situations may occur in which it is impossible to drive the drill rod into the material without destroying the surface. In this case, it will be necessary to use the backscatter geometry.

Under backscatter conditions, site preparations must be more thorough and all voids filled as closely as possible to the same or similar density as the compacted material. The gauge must not rock on its base when seated.

When the source rod is indexed into the backscatter position, be careful not to bypass the detent and force the source rod tip on or into the material.

c. Asphalt Paving

When using a nuclear instrument for compaction control of asphalt paving, the Control Strip Method outlined under section V is recommended; however, there may be a time when direct density measurements are desired. If the compacted lift is at least 50 mm (2 inches) thick, the direct transmission geometry is recommended. If a thinner wear layer or blanket is involved, the backscatter geometry is more appropriate.

In both cases, and particularly backscatter, site preparation consists of filling the surface voids with the minimum amount of graded sand required to produce a smooth condition. It is important not to elevate the gauge above the surface by applying too much filler material. An easy way of accomplishing proper seating is to put a handful of sand in the surface and slide the scraper plate or gauge base back and forth on the site to remove excess material.

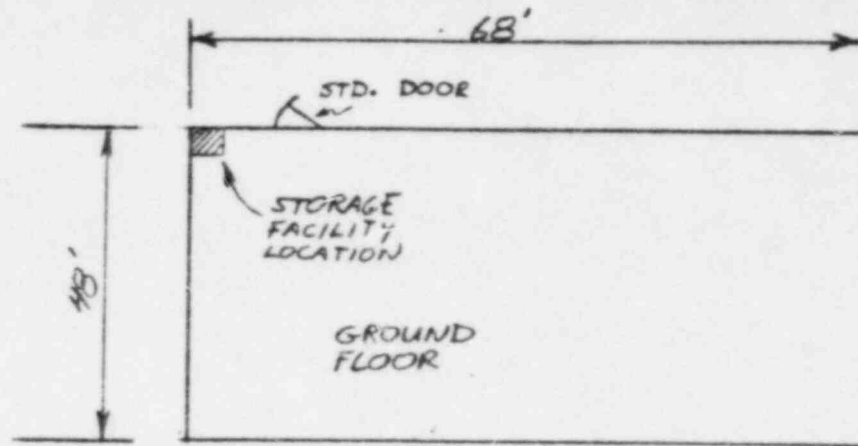
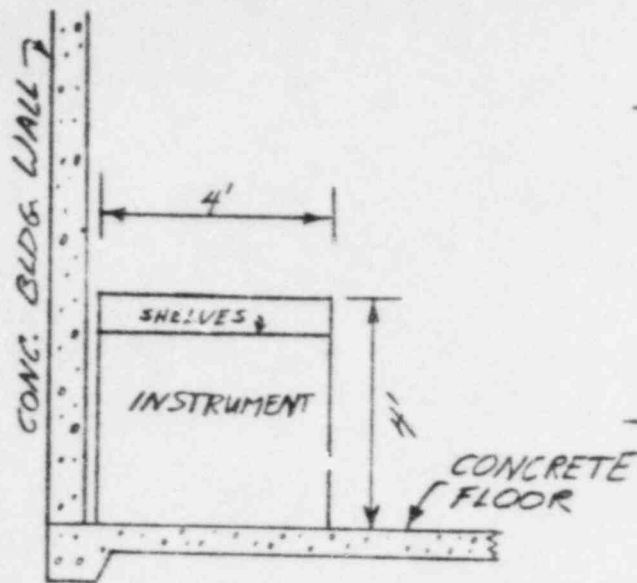
While the paving is still hot or even within a few days after installation, it is not difficult to drive the drill rod into the paving. After curing, it may become necessary to drill the hole or use backscatter methods.

D. Duties of the Radiation Safety Officer

1. To assure that byproduct materials possessed under the license conform to the materials listed on the license.
2. To assure that use of the devices, particularly in the field, is only by individuals authorized by the license.
3. To assure that all users wear personnel monitoring equipment, such as film badges or thermoluminescence dosimeters (TLD) when required.
4. To assure that gauges are properly secured against unauthorized removal at all times when they are not in use.
5. To serve as a point of contact and give assistance in case of emergency (gauge damage in the field, fire, theft, etc.) to assure that proper authorities, for example NRC, local police and State personnel, are notified promptly in case of accident or damage to gauges.



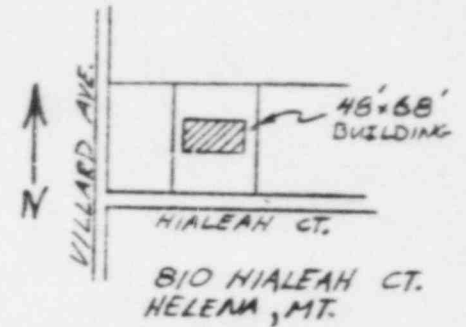
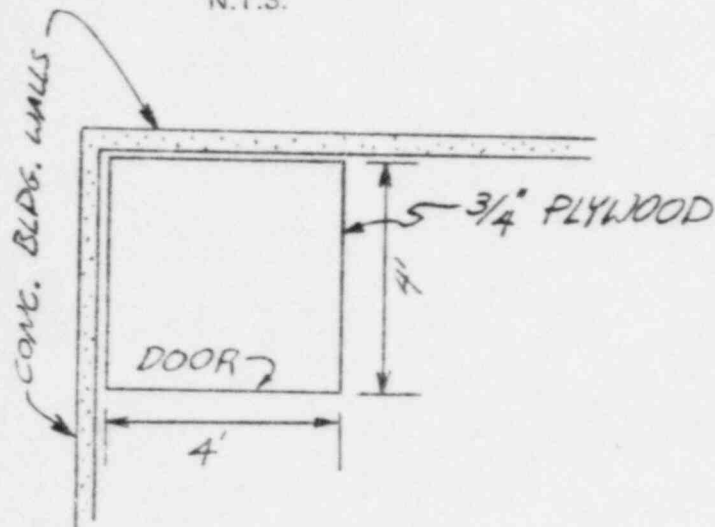
6. To assure that the terms and conditions of the license, such as periodic leak tests, are met and that the required records, such as personnel exposure records, leak test records, etc. are periodically reviewed for compliance with Nuclear Regulatory Commission regulations, requirements, and license conditions.



BUILDING PLAN

N.T.S.

NO HUMAN  
OCCUPANCY ON  
THIS FLOOR  
NO HUMAN  
RESIDENCE OF  
THIS BUILDING



ROBERT PECCIA & ASSOCIATES

810 HIALEAH COURT  
HELENA, MONTANA 59601

SKETCH OF STORAGE FACILITY

8850974

# TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

DOUGLAS E. WIDMAYER

of

ROBERT PECCIA & ASSOCIATES

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.  
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.

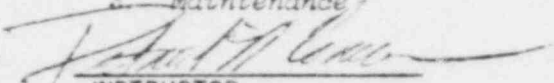
SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

## Radiological Safety

- |  |   |
|--|---|
| 1. Principles and practices of radiation protection.                               | 5. Radioactivity measurement standardization and monitoring techniques and instruments. |
| 2. Leak testing procedures.  | 6. Accident and incident procedures.  |
| 3. Mathematics and calculations basic to the use and measurement of radioactivity. | 7. Procedures for nuclear gauge storage and transportation.                             |
| 4. Biological effects of radiation.  | 8. General safety precautions.  |

## Gauge Operation

- |                         |                      |
|-------------------------|----------------------|
| 1. Instrument theory    | 4. Field application |
| 2. Operating procedures | 5. Gauge calibration |
| 3. Maintenance          |                      |

  
INSTRUCTOR

2/7-8/80

DATE

WILLIAM F. TROXLER

PRESIDENT

# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

Gary M. Swanson

has successfully completed the approved course of study as required by the United States Nuclear Regulatory Commission and the Agreement states and Gauge Operation for the use of gauges, as presented by



**RMS, Inc.**

Patrick N Corcoren  
President and Radiation Safety Officer

2/14/84  
Date

Instructor

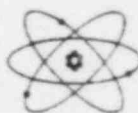


# Nuclear Gauge Operators Advanced Training Course

This Certifies that

Francis J. Kerins Jr.

has attended and participated in the course of study in the advanced use and applications of portable nuclear  
moistures and density gauges in practical field inspection and testing, as presented  
by



## RMS, Inc.

Patrick N. Corcoran  
President

2/15/84  
Date

*Felix M. [Signature]*  
Instructor

# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

Keith A. Jensen

has successfully completed the approved course of study as required by the United States Nuclear Regulatory Commission and the Agreement states and Gauge Operation for the use of gauges, as presented by



**RHS, Inc.**

Patrick N Corcoran  
President and Radiation Safety Officer

2/14/84

Date

Instructor



# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

Mark A. Smith

has successfully completed the approved course of study as required by the United States Nuclear Regulatory Commission and the Agreement states and Gauge Operation for the use of gauges, as presented by



**RMS, Inc.**

Patrick N. Corcoran  
President and Radiation Safety Officer

2/14/84

Date

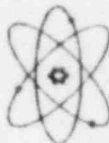
Instructor

# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

David M. Zimmer

has successfully completed the approved course of study as required by the United States Nuclear Regulatory Commission and the Agreement states and Gauge Operation for the use of gauges, as presented by



**RAAS, Inc.**

Patrick N. Corcoran  
President and Radiation Safety Officer

2/14/84

Date

President

# RADIOACTIVE SOURCE CERTIFICATE

Code	<u>47</u>	Customer Number	<u>P2519MTAS</u>
Source Number	<u>CAA-3216</u>	Code	<u>40</u>
Type	<u>Americium 241:Beryll</u>	Source Number	<u>CC-4120</u>
Type of Radiation	<u>Gamma/Neutron</u>	Type	<u>Cesium 137</u>
Activity	<u>40 mCi</u>	Type of Radiation	<u>Gamma</u>
Neutron Output	<u>8.4X10**4</u>	Activity	<u>7.4 mci</u>
		Neutron Output	<u>-----</u>

Sources are encapsulated in stainless steel, Special Form Type A containers

<u>11/13/79</u>	DATE OF MEASUREMENT	<u>11/07/79</u>
WIPE TEST RECORD	Less than .005 micro-curies removable contamination.	WIPE TEST RECORD
<u>5-6-80</u>		<u>5-6-80</u>

COMPETENT AUTHORITY  
Special Form Certificate

## ORIGINAL USE

Enclosed in Model 3411B, Serial No. 6981  
Date Shipped 5-6-80  
To Robert Peccia Co  
1 North Last Chance Gulch  
Helena, Montana 59601

Customer P. O. No. \_\_\_\_\_, License No. 25-19316-01  
W. O. No. WO#10427

## RECOMMENDATIONS

1. Treat radioactive source with respect.
2. Do not touch with hands or body. Use tongs.
3. Do not expose to personnel.
4. Wipe test every six months.
5. If dropped, or struck, immediately wipe test.
6. Consult your Radiological Safety Officer on shipping, handling and surveillance procedures.
7. If questions arise contact Troxler Electronic Laboratories, Inc.
8. Wipe Test Kits available.

## CLASSIFICATION OF RADIOACTIVE SOURCE

According to regulations of the Department of Transportation, this source is Special Form. Whenever shipped by public carrier, a special shipping label is required.

Wayne W. Quigg  
RADIOLOGICAL SAFETY OFFICER



Wayne W. Quigg

P. O. BOX 12057 RESEARCH TRIANGLE PARK, N.C. 27709 USA

Manufacturers of Surface Moisture, Surface Density, Depth Moisture, and Depth Density Equipment

X60583