



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
BOLLING AFB, D.C. 20332

REPLY TO AFMSC SGPA  
ATTN OF: BROOKS AFB TEXAS 78235

1 May 1985

SUBJECT: Request for Nuclear Regulatory Commission (NRC) License

TO: Radioisotopes Licensing Branch  
Division of Fuel Cycle and Material Safety  
U.S. Nuclear Regulatory Commission  
Washington DC 20555

1. Forwarded are copies of NRC Form 313I submitted with request for NRC license for possession and use of Troxler soil density gauges at temporary job sites throughout the United States.
2. Request that any correspondence issued pursuant to this amendment be forwarded to this office.

*Lawrence Donovan*

LAWRENCE DONOVAN, Captain, USAF, BSC  
USAF Radioisotope Committee  
Office of the Surgeon General

1 Atch  
a/s

TEL EXEMPT

8509120395 850905  
NMSS LIC30  
27-23354-01 PDR

58  
MAY -6  
MID 53  
18940



DEPARTMENT OF THE AIR FORCE

USAF HOSPITAL NELLIS (TAC)  
NELLIS AIR FORCE BASE NV 89191

REPLY TO  
ATTN OF:

SGPB (AV 682-3316)

APR 18 1985

SUBJECT:

Request for Byproduct Material License

TO:

HQ TAC/SGPB (Col Dougherty) *J. Dougherty 23 APR 85*

AFMSC/SGPA (Lt Col Burr)

IN TURN

1. Enclosed are three copies of NRC Form 313I, "Application for Byproduct Material License," for your review and action. Please relay to the USNRC our desire to expedite processing of this application to support the 820 Civil Engineering Squadron's mobility function.

2. Please call me if you have any questions.

FOR THE COMMANDER

NICK A. FARINACCI, Major, USAF, BSC  
Ch, Bioenvironmental Engineering Svcs

1 Atch  
820 CES/DES Ltr, 12 Apr 85  
w. attached NRC Form  
313I (3 cys)

cc: 820 CES/DES (TSgt DuPuis)

*Readiness is our Profession*

*Atch*

APR 15 1985



DEPARTMENT OF THE AIR FORCE

820TH CIVIL ENGINEERING SQ/HR (RED HORSE)  
NELLIS AIR FORCE BASE, NV 89191

APR 12 1985


REPLY TO  
ATTN OF: DES (MSgt Armijo, 4401)

SUBJECT: Application For A Byproduct Material License

TO: USAF HOSP/SGPB

1. IAW T.O. 00-110N-3, paragraph 8.f., four (4) copies of the subject application to possess and use a Troxler Model 3400 Series Surface Moisture Density Gauge are submitted for your review and coordination. Due to the impact that this piece of equipment will have on our mission request that this application be routed expeditiously to the USNRC for their action.

2. Point of contact for this activity is SSgt, Dupuis, who can be contacted at (702) 643-4401 or Autovon 682-4401.

  
TOMAS O. ARMILLO, MSgt, USAF  
Engineering Assistant Supervisor

*Readiness is our Profession*

23354

<b>NRC Form 313 I</b> <b>(12-81)</b> <b>10 CFR 30</b>		<b>U.S. NUCLEAR REGULATORY COMMISSION</b>		<b>1. APPLICATION FOR:</b> <i>(Check and/or complete as appropriate)</i>	
<b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b> <b>INDUSTRIAL</b>				<input checked="" type="checkbox"/> <b>a. NEW LICENSE</b>	
<i>See attached instructions for details.</i>  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.				<input type="checkbox"/> <b>b. AMENDMENT TO LICENSE NUMBER</b>  <input type="checkbox"/> <b>c. RENEWAL OF LICENSE NUMBER</b> <div style="font-size: 1.5em; font-weight: bold;">23354</div>	
<b>2. APPLICANT'S NAME</b> <i>(Institution, firm, person, etc.)</i>  820CES/HR TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 702/643-4401/2302/4889			<b>3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION</b>  TOMAS O. ARMIJO TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 702/643-4401/2302/4889		
<b>4. APPLICANT'S MAILING ADDRESS</b> <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i>  820CES/HR Nellis AFB, Nevada 89191			<b>5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED</b> <i>(Include Zip Code)</i> At address listed in item #4 and at temporary jobsites throughout the U.S.		
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)					
<b>6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL</b> <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>					
FULL NAME			TITLE		
a. TOMAS O. ARMIJO, or any individual who has completed the manufacturer's training course and has been instructed in our operating and emergency procedures.					
c. Copies of the certificate of training for each user will be maintained in our files.					
<b>7. RADIATION PROTECTION OFFICER</b>  NICK A. FARINACCI, MAJOR, USAF			<i>Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.</i>		
<b>8. LICENSED MATERIAL</b>					
LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i>	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME	
	A	B	C	D	
(1)	CS-137	SEALED SOURCE	TROXLER DRAWING#A-102112	NOT TO EXCEED 10mCi per source	
(2)	AM 241: Be	SEALED SOURCE	TROXLER DRAWING #A-102451	NOT TO EXCEED 50mCi per Source	
(3)					
(4)					
<b>DESCRIBE USE OF LICENSED MATERIAL</b> <b>E</b>					
(1)	FOR USE IN TROXLER MODEL 3400 SERIES SURFACE				
(2)	MOISTURE DENSITY GAUGES TO MEASURE PROPERTIES OF CONSTRUCTION MATERIALS.				
(3)					
(4)					

### 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)	SURFACE MOISTURE DENSITY GAUGE	TROXLER ELECTRONICS	3400 SERIES
(2)			
(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)	NONE					
(2)						
(3)						
(4)						

### 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

N/A

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

### 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input type="checkbox"/> (1) FILM BADGE  <input checked="" type="checkbox"/> (2) THERMOLUMINESCENCE (NEUTRON) DOSIMETER (TLD) (BADGES)  <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	USAF Occupational & Environmental Health Lab ( OEHL ) / RZD Brooks AFB, Tx. 78230	<input type="checkbox"/> MONTHLY <input checked="" type="checkbox"/> QUARTERLY  <input type="checkbox"/> OTHER (Specify): _____ _____

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

☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.

☒ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.

☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.

☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

SEE ATTACHED DRAWING

### 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

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 SOURCES WILL BE RETURNED TO THE MANUFACTURER OR ANOTHER AUTHORIZED LICENSEE WHEN USE IS DISCONTINUED.

### 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.

ITEM 15 - SEE ATTACHED RADIATION SAFETY PROGRAM

ITEM 16-17- SEE ATTACHED CERTIFICATE OF TRAINING FOR THE RADIATION SAFETY OFFICER.

### 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)*

b. CERTIFYING OFFICIAL *(Signature)*

c. NAME *(Type or print)*

(1) LICENSE FEE CATEGORY:

d. TITLE

(2) LICENSE FEE ENCLOSED: \$

e. DATE

RADIATION SAFETY PROGRAM  
820th CES/HR  
NELLIS AFB, NEVADA 89190

1. RADIATION - PROTECTION OFFICER

a. Tomas O. Armijo will be this organizations Radiation Safety Officer, and will assume the following duties and responsibilities:

(1) He will make sure that all terms and conditions of the license are being maintained and that all information in the license is kept current and up to date.

(2) He will make sure that the equipment is properly leak tested as prescribed by the manufacturer, and that the leak tests are performed at least every 6 months.

(3) He will make sure that only authorized personnel use the equipment and that they wear their assigned personal monitoring badge whenever handling or using the equipment.

(4) He will maintain up-to-date records as required by the license including personnel exposure records, leak test, training certificates, and all other records required by state and federal regulations.

(5) When not being used, he will make sure the equipment is properly secured in its storage area to prevent theft or unauthorized removal.

(6) He will be the point of contact for any emergency such as damage or theft and will take corrective actions including notifying the proper authorities.

(7) He will make sure that all personnel read and understand the radiation safety operation and emergency procedures.

2. OPERATING PROCEDURES

a. Transportation of Equipment

(1) While being transported by a private motor vehicle the equipment will be fully secured and placed in a portion of the vehicle which can be locked. If it is transported in an enclosed vehicle it will be as far away from the passenger compartment as possible. If it is transported in an open bed vehicle it will be fastened and locked to the truck bed.

(2) The gauge will be transported in the proper Troxler transportation case and will be labeled with the proper labels according to state and federal regulations.

b. Utilization Procedures

(1) While the gauge is in the field or out of its storage area. Security over it will be maintained.

(2) When the gauge is not being used it will be in its proper transportation case and returned to its storage area.

(3) While operating the gauge the personal monitoring badge will be worn at all times.

If not required, store monitoring badge in the radiation free area designated by the radiation safety officer.

#### c. Maintenance and Leak Test Procedures

(1) Periodic maintenance will be as outlined in the gauge instruction manual. The personal monitoring badge will be worn while performing all periodic maintenance.

(2) No maintenance will be performed in which the radioactive source is removed from the gauge. For this type of maintenance the gauge will be returned to the manufacturer.

(3) The leak test will be performed using Troxler Model 3880 leak test kit. The leak test will be performed according to the manufacturers instructions. The personal monitoring badge will be worn while performing the leak test. The gauge will be tested at least every 6 months and records will be kept of the results.

### 3. Emergency Procedures

a. In the event the gauge is physically damaged the following actions will be taken immediately:

(1) Cordon off at least 15 feet around the gauge.

(2) If a vehicle is involved, it will be stopped until the extent of the contamination, if any, can be determined.

(3) Make a visual inspection of the gauge to determine if the housing and/or shielding has been damaged.

(4) Immediately after the situation is under control, notify Tomas O. Armijo, Radiation Safety Officer, (702) 643-4401. Provide him with all information pertaining to the incident, and follow his instructions on what corrective actions to take.

b. In the event the gauge is lost or stolen, immediately notify Tomas O. Armijo, Radiation Safety Officer, at (702) 643-4401 who will then notify the NRC Region 5.

Major Nick A. Farinacci, 3316, 31 Jan 84, tjd

SGPB (AV682-3316)

JAN 31 1984

Request for Amendment No. 10 to USNRC Source Material License SUB-1244

HQ TAC/SGPAE

AFMSC/SGPA (Capt Bollinger)

IN TURK

1. Request subject license be amended to show assignment of Major Nick A. Farinacci, 457-68-5806, as Radiological Protection Officer for Nellis AFB.
2. The following is a summary of Major Farinacci's education and experience:
  - a. BS, Chemistry, University of Texas, Austin TX, 1965.
  - b. BS, Electrical Engineering, University of Texas, Austin TX, 1967.
  - c. Bioenvironmental Engineering Course, OBY9121, Brooks AFB TX, 1973.
  - d. Also, see the attached NRC Form 313M Supplement A.

FOR THE COMMANDER

Signed By

NICK A. FARINACCI, Major, USAF, BSC  
Chief, Bioenvironmental Engineering Services

1 Atch  
NRC Form 313M Sup A

# **TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER**

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER <i>Wick A. Ferinsool</i>		2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE		
3. CERTIFICATION				
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C		
None				
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES				
FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING		
		LECTURE LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D	
a. RADIATION PHYSICS AND INSTRUMENTATION	USAF Bioenvironmental Engineer Course, Brooks AFB TX, Aug - Nov 73	26	-	
b. RADIATION PROTECTION	USAF Bioenvironmental Engineer Course, Brooks AFB TX, Aug - Nov 73	12	-	
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	USAF Bioenvironmental Engineer Course, Brooks AFB TX, Aug - Nov 73	4	-	
d. RADIATION BIOLOGY	None			
e. RADIOPHARMACEUTICAL CHEMISTRY	None			
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)				
ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
I-25	200 $\mu$ Ci	RAF Lakenheath UK	Jun 80 - Jun 83	Radioisotope Assay
Cs-137	100 mCi	RAF Lakenheath UK	Jun 80 - Jun 83	Cal Source
Pu-239	10 $\mu$ Ci	RAF Lakenheath UK	Jun 80 - Jun 83	Cal Source
Cs-137	105 mCi	Nellis AFB NV	Aug 83 - Present	Cal Source
Pu-239	945 $\mu$ Ci	Nellis AFB NV	Aug 83 - Present	Cal Source

**FLOOR PLAN**

LOCKED CABINET

SOILS  
LAB

(UNOCCUPIED)

MECHANICAL  
ROOM

163  
(345)

164

165  
REST  
ROOM

166

167  
(330)

LOCKED DOOR

172  
(270)

171  
(270)

170  
(330)

16  
(95)

53  
(270)

TRAINING  
SECTION

2  
(11)

FLOOR PLAN

# TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

TOMAS O. ARMIJO

of

NELLIS AIR FORCE BASE (820 CES)

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

## Gauge Operation

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

*Michael E. Hurley*  
INSTRUCTOR

10/20/83  
DATE

W.F. TROXLER  
PRESIDENT

**Nº 04250**

18940