

FORM NRC-313 I (3-80) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i> <div style="text-align: right; font-size: 1.5em;">03121</div>	
<b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL</b>				X	a. NEW LICENSE 03121
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.				b. AMENDMENT TO LICENSE NUMBER  c. RENEWAL OF: LICENSE NUMBER <div style="text-align: right; font-size: 1.5em;">L&amp;L 23509</div>	
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i>  R & M Engineering, Inc.  TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 907-780-6060			3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Joseph L. Connolly, Vice President  TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 907-780-6060		
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i>  P.O. Box 1786 Juneau, Alaska 99802			5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> 6205 Glacier Highway Juneau, Alaska 99801 <div style="float: right; font-size: 1.5em;">30-22284</div>		
(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 <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>					
FULL NAME			TITLE		
a. Malcolm A. Menzies			President		
b. Joseph L. Connolly			Vice President		
c. Martin Stevens			Materials Technician		
7. RADIATION PROTECTION OFFICER  Joseph L. Connolly			Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.		
8. LICENSED MATERIAL					
L I N E  NO.	ELEMENT AND MASS NUMBER  A	CHEMICAL AND/OR PHYSICAL FORM  B	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i>  C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME  D	
(1)	CS 137	Sealed source	Troxler Dwg #102112	No source to exceed 9 mC	
(2)	Am 241:Be	Sealed source	Troxler Dwg #102451	No source to exceed 40 mC	
(3)					
(4)					
DESCRIBE USE OF LICENSED MATERIAL E					
(1)	For use in Troxler 3400 series moisture density gauge to measure				
(2)	properties of construction material.				
(3)	License Fee Information on back page cover				
(4)	<div style="display: flex; justify-content: space-between;"> <div>             8507170170 850508              REGS LIC30              50-23509-01           </div> <div>PDR</div> </div>				

## 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)	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)	Film Badge	Radiation Detection Co.			Gamma (CS)	
(2)	Albedo Badge	Radiation Detection Co.			Neutron (AM-be)	
(3)						
(4)						

## 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY  
 Troxler Labs Nuclear Testing Services  
 Salt Lake City, Utah  
 As Necessary

☐ 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 checked="" type="checkbox"/> (1) FILM BADGE	Radiation Detection Company 162 Wolfe Road Sunnyvale, California 94086	<input checked="" type="checkbox"/> MONTHLY
<input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)		<input type="checkbox"/> QUARTERLY
<input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____		<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.

## 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

Sources 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.

See 14 a.

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)	Moisture Density Gauge	Troxler Electronics	3400 Series
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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.
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<input checked="" type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY Troxler Labs Nuclear Testing Services Salt Lake City, Utah As Necessary	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

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<input checked="" type="checkbox"/> (1) FILM BADGE  <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)  <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	Radiation Detection Company 162 Wolfe Road Sunnyvale, California 94086	<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).)
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# 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.

## 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.—19 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.

<p>a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170) \$110</p>	<p>b. CEP INC OFFICIAL (Signature) <i>L. Connolly</i> (Type or print) L. Connolly</p>
<p>(1) LICENSE FEE CATEGORY: 43FR721036</p>	<p>d. TITLE Vice President</p>
<p>(2) LICENSE FEE ENCLOSED: \$ 110</p>	<p>e. DATE 1/16/85</p>

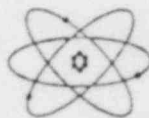


# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

Joe Connolly

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



in the Fundamentals of Radiation Safety, portable nuclear moisture and density

**RMS, Inc.**

Patrick N Corcoran  
President and Radiation Safety Officer

1/6/83  
Date

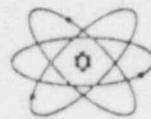
*F. Hill*  
Instructor

# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

Mark Stevens

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



in the Fundamentals of Radiation Safety portable nuclear moisture and density

**RAIS, Inc.**

Patrick N Corcoran  
President and Radiation Safety Officer

1/6/83  
Date

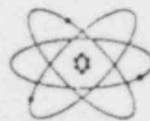
*Patricia A. Corcoran*  
Instructor

# Nuclear Gauge Operators Radiation Safety Course

This Certifies that

M. A. Menzies

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



in the Fundamentals of Radiation Safety portable nuclear moisture and density

## RMS, Inc.

Patrick N Corcoran  
President and Radiation Safety Officer

1/6/83  
Date

*Pat N Corcoran*  
Instructor





ENGINEERS  
GEOLOGISTS  
PLANNERS  
SURVEYORS

R&M CONSULTANTS, INC. 5024 CORDOVA • BOX 6087 • ANCHORAGE, ALASKA 99502 • PH 907 279-0483 • TLX 090 25280

# ATTACHMENT FOR APPLICATION FOR BYPRODUCT MATERIAL LICENSE

## 15. RADIATION PROTECTION OFFICER RESPONSIBILITIES ARE:

- 1) Coordinate the safe use of the gauges.
- 2) Assure compliance with the requirements of Title 10 CRF Parts 19, 20, or applicable state regulations, and all applicable US DOT regulations.
- 3) Assure byproduct materials possessed under the license are in conformity to materials listed on the license.
- 4) Assure that use of devices (particularly in the field) is only by persons named as users under the license or persons who have persons named as users under the license or persons who have completed acceptable training.
- 5) Assure all users wear personnel monitoring (when required) while using gauges.
- 6) Assure gauges are properly secured against unauthorized removal at all times.
- 7) Serve as point of contact and give assistance in case of emergency to insure that all proper authorities are notified promptly in case of accidents.
- 8) Assure that terms and conditions of the license are met such as:
  - a) Periodic leak tests are performed,
  - b) All required records are kept and reviewed periodically for compliance with regulations - these include source certificates, leak test report personnel exposure reports, and records of transfer of radioactive materials.

## 15. RADIATION PROTECTION PROGRAM

The Radiation Protection Program established for R&M Consultants is as follows:

### A. HANDLING PROCEDURES

1. Do not operate, attempt to operate or transport the instrument unless you have been authorized to do so.
2. Keep the source position in the "SAFE" or stored position when not in use.
3. Wear a film badge or other dose measurement device when using or transporting the instrument.
4. Never expose yourself to the bare source, ~~\_\_\_\_\_~~
5. Keep all unauthorized persons out of the operating area. A suggested distance is 5 meters or 15 feet. The general public must not be unnecessarily exposed to radiation.
6. Maintain security of the instrument at all times. The source lock should be in place when not in use and the instrument should be kept in a locked vehicle when transported. When stored, the area shall be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be hazardous.



7. Insure that the gauge has had leak tests performed at the intervals required by your Radioactive Materials License.
8. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer or can obtain one.

B. SECURITY

Locks shall be maintained on the equipment to prevent accidental damage to, or exposure of the sealed source when not under the direct supervision of approved personnel. Storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel. Use of devices shall be only by persons trained and authorized to do so.

C. PERSONNEL MONITORING

No person shall use equipment unless he is in possession of the appropriate form of dosimetry.

D. RECORDS AND REPORTS

1. A biannual physical inventory to account for all sealed sources received and possessed under the license shall be performed. The inventory record shall be maintained for inspection.
2. All sealed sources shall be leak tested at the interval required by the license. When transferred, a leak test certificate, shall accompany the unit.
3. Reports from the film badge service shall be maintained for inspection.
4. When an individual terminates employment, a record of his total received dose shall be made available to the employee on request.

E. INCIDENTS

1. Immediate telephone notification shall be made to the following in the event of loss of sealed source, whether accidental or due to theft.
  - A. Company Radiological Safety Officer
  - B. U.S. NRC Regional Office
  - C. State Health Department  
Radiological Protection Division
  - D. Local Authorities  
Fire dept., sheriff, police, state highway patrol
  - E. Troxler Electronic Laboratories within 30 days after a loss, a written report shall be filed giving detailed description of the source, circumstances of the loss, statement of disposition, possible radiation exposures or hazard, actions taken to recover the source, and procedures which will be implemented to prevent a recurrence of the loss or theft.
2. Any overexposure of operators which exceeds the limits given in 10 CFR Part 20, shall be reported detailing circumstances of the exposure and possible injury.

F. EMERGENCY PROCEDURES

1. In the event of physical damage to a gauge, a fifteen (15) feet radius exclusion area should be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it must be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the source indicates damage to the source, including fracture of the weld, the appropriate authorities and Troxler Electronic Laboratories, Inc. should be notified. The instrument may be removed from the site by using a shovel or other long handled instrument and placed in a suitable container such as a metal drum.
2. Provisions should be made to have the site surveyed for possible contamination after the instrument is removed. Disposition by the factory, as covered in Item 14 may be arranged after a leak test has been performed to determine the integrity of the source prior to shipment to the factory.

G. TRANSPORT BY PRIVATE MOTOR VEHICLE

The equipment, in its container, may be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 49 CFR 177.823.

The lock must be in place and the container placed in a portion of the vehicle which can be locked. When not in transit the equipment must be stored in a secured area.

Since the container has a Transport Index of 0.1 or greater it may not be stored less than 30 centimeters from passengers per 49 CFR 174.586. If also can not be stored for more than 8 hours at less than 1 meter from undeveloped film.

New section H, to be added to Section 15. .

#### H. TRAINING REQUIREMENTS

Licensed material shall be used by, or under the supervision and in the physical presence of the Radiation Safety Officer or any other individuals who have completed the Troxler Training Course or the training course offered by the Alaska Department of Transportation and Public Facilities.

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