030-14548

**United States Testing Company, Inc.**
Unitech Services Group
1415 PARK AVENUE
HOBOKEN, NEW JERSEY 07030 (201) 792-2400



NEW YORK
MEMPHIS
ORLANDO
MIAMI
CHICAGO
COLORADO SPRINGS
SAN FRANCISCO
MODESTO
LOS ANGELES
SAN DIEGO

USTCNRC88-031 May 23, 1988

United States Nuclear Regulatory Comm.
Region I Nuclear Materials Safety Section B
475 Allendale Road
King of Prussia, PA 19406

Reference: Renewal of NRC License Number 29-02477-07
Expiration date: June 30, 1988

Attn: Dr. John Green:

Attached are two copies of renewal application (NRC Form 313) for the referenced license. NRC Form 313 and the supporting documents were prepared in accordance with the Draft Regulatory Guide No. FC-407-4. It is our understanding that the existing license remains in effect until NRC review and approval actions for this request have been completed.

Enclosed please find our check in the amount of $120.00 for the renewal fee.

Please contact the undersigned at 201-792-2400 Ext. 297 if you require any additional information.

Sincerely,

J.A. Mohrbacher
Director, Office of Radiation Safety
and Quality Assurance

JAM/gtp

License Fee Information on application.

Attachment: License Renewal Application

Enclosure: Renewal Fee





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5-25-88
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NRC FORM 313
(10-87)
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires: 6-30-90

# APPLICATION FOR MATERIAL LICENSE

030-14548

**INSTRUCTIONS:** SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

**APPLICATIONS FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:**

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

**ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:**

**CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:**

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIALS SAFETY SECTION B
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

**ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:**

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
NUCEAR MATERIALS SAFETY SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

**IF YOU ARE LOCATED IN:**

**ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:**

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

**ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:**

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

**ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:**

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
NUCLEAR MATERIALS SAFETY SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

**PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.**

**1. THIS IS AN APPLICATION FOR** *(Check appropriate item)*

- [ ] A. NEW LICENSE
- [ ] B. AMENDMENT TO LICENSE NUMBER _____
- [X] C. RENEWAL OF LICENSE NUMBER 29-02477-07

**2. NAME AND MAILING ADDRESS OF APPLICANT** *(Include Zip Code)*

United States Testing
Unitech Services Group
1415 Park Avenue
Hoboken, New Jersey 07030

**3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.**

1415 Park Avenue
Hoboken, New Jersey 07030

And various Temporary Job Sites throughout the United States under NRC Jurisdiction

**4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION**

J.A. Mohrbacher

**TELEPHONE NUMBER**

201-792-2400 Ext.294

**SUBMIT ITEMS 5 THROUGH 11 ON 8½ x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.**

| | |
|---|---|
| **5. RADIOACTIVE MATERIAL** a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time. Section #2 | **6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.** Section #2 |
| **7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.** Section #3 | **8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.** Section #4 |
| **9. FACILITIES AND EQUIPMENT.** Section #5 | **10. RADIATION SAFETY PROGRAM.** Section #6 |
| **11. WASTE MANAGEMENT.** Section #7 | **12. LICENSEE FEES** *(See 10 CFR 170 and Section 170.31)* FEE CATEGORY 3P / AMOUNT ENCLOSED $ 120.00 |

**13. CERTIFICATION.** *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR 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.

| SIGNATURE–CERTIFYING OFFICER | TYPED/PRINTED NAME | TITLE | DATE |
|---|---|---|---|
| J.A. Mohrbacher | J.A. Mohrbacher | Director, Office of Radiation Safety and Quality Assurance | |



**FOR NRC USE ONLY**

| TYPE OF FEE | FEE LOG | FEE CATEGORY | COMMENTS | APPROVED BY |
|---|---|---|---|---|
| REN | Jun 3 F | 3P | | S. Kimberley |
| **AMOUNT RECEIVED** | **CHECK NUMBER** | | | **DATE** |
| $120 | 106096 | | | 6/9/89 |

"OFFICIAL RECORD COPY" ML18

5-25-88

SECTION 2

Radioactive Material/Purposes for use

Items 5 and 6 of NRC Form 313

Item #5

| Radioactive Material (Element and Mass Number) | Chemical and/or Physical Form | Maximum Quantity Licensee May Possess at Any One Time |
|---|---|---|
| A. Cesium 137/ Americium 241/Be | A. Combined Sealed Sources (Troxler Dwg. A-100281 Rev. E) | A. Not to exceed 10 millicuries of Cesium 137 and 50 millicuries of Americium 241 per source. |
| B. Cesium 137 | B. Sealed Source (Troxler Dwg. A-102112) | B. Not to exceed 10 millicuries per source. |
| C. Americium 241/Be | C. Sealed Source (Troxler Dwg. A-102451) | C. Not to exceed 60 millicuries per source. |
| D. Cesium 137 | D. Sealed Source (Troxler Dwg. A-102112) | D. Not to exceed 10 millicuries per source. |
| E. Americium 241/Be | E. Sealed Source (Troxler Dwg. A-102451) | E. Not to exceed 60 millicuries per source. |
| F. Americium 241/Be | F. Sealed Source (Troxler Dwg. 102451) | F. Not to exceed 44 millicuries per source. |
| G. Cesium 137 | G. Sealed Source (Campbell Pacific Model CPN 131) | G. Not to exceed 10 millicuries per source. |
| H. Americium 241/Be | H. Sealed Source (Campbell Pacific Model CPN 131) | H. Not to exceed 50 millicuries per source. |
| I. Americium 241/Be | I. Sealed Source (Campbell Pacific Model CPN 131) | I. Not to exceed 50 millicuries per source. |
| J. Radium 226/Be | J. Sealed Source (Troxler Dwg. 100280) | J. Not to exceed 3.5 millicuries per source. |

Item #6 PURPOSE FOR WHICH RADIOACTIVE MATERIAL WILL BE USED

A. For use in Troxler Model 2401 series moisture density gauges for determining density to moisture content of materials.

B.C.D.E. For use in Troxler Model 3401 and 3411 series moisture density gauges for determining density and moisture content of materials.

F. For use in Troxler Model 3216 surface moisture gauge for determining the moisture content of materials.

G. For use in Campbell Pacific Model MC series moisture density gauges for determining density and moisture content of materials.

H. For use in Campbell Pacific Model MC series moisture density gauges for determining density and moisture content of materials.

I. For use in Campbell Pacific Model MCM surface moisture gauges for determining moisture content of materials.

J. For use in Troxler Model 2401 series moisture density and moisture content of materials.

SECTION 3

Responsible Individuals

Item 7 of NRC Form 313

The Director, Office of Radiation Safety and Quality Assurance is responsible for the Nuclear Gauge Radiation Safety Program. The conduct of the program may be delegated to the individuals listed below. Resumes for these individuals are enclosed. Each has the equivalent training and experience to meet the requirements for qualified users and instructors as outlined in Draft of Regulatory Guide No. FC-407-4.

| | | |
|---|---|---|
| J.A. Mohrbacher | - | Director, Office of Radiation Safety and Quality Assurance |
| J. Grimm | - | Eastern Region RSO |
| R. Sweet | - | Regional RSO |
| M. Langston | - | Nuclear Gauge RSO |
| M. Walle | - | Nuclear Gauge RSO |

SECTION 4

Nuclear Gauge Operator Training

Item 8 of NRC Form 313

Prior to being authorized to use Nuclear Gauges, each employee shall complete a Device Manufacturers Training Program or an Equivalent Training Program approved by Director, Office of Radiation Safety and Quality Assurance.

This training will be conducted by those individuals specified in Section 3, or others specifically designated by the Director, Office of Radiation Safety and Quality Assurance. Such instructors shall be familiar with nuclear gauge operations and have the training equivalent to that provided by the manufacturer. They shall have the equivalent of eighty hours training in health physics.

Records of Personnel Safety Training shall be maintained for at least two (2) years.

Training Program Outline

A. Origin and nature of radiation (Min. one-half hr.)

B. Characteristics of x-rays and gamma rays (Min. one-half hr.)

C. Interaction of radiation with matter (Min. one-half hr.)

D. Biological effects of radiation (Min. one hr.)

E. Units of radiation dose (Min. one-half hr.)

F. Methods of controlling radiation dose (Min. one-half hr.)

G. Radiation detection and measurements (Min. one hr.)

H. Nuclear gauge equipment (Min. one hr.)

I. Case histories of radiography accidents (Min. one-half hr.)

J. Requirements of Federal or Agreement States Regulations (Min. one hr.)

K. Instruction on the requirements of the Safety Program with emphasis on the Operating and Emergency Procedures; (Min. one hr.).

This training program will be supplemented with the following:

1. Quarterly radiation safety meetings will be held, this may be individual self instruction or a group meeting or a combination.

2. Individual operators will be tested once per year either by written test or personnel audit performed by an RSO listed in Section 3.

3. Recertify each nuclear gauge operator every three years.

4. Annual audit of nuclear gauge operations by persons designated in Section 3 or others specifically appointed by the Director, Office of Radiation Safety and Quality Assurance.

SECTION 5

Facilities and Equipment Storage

Item 9 of NRC Form 313

## Facilities and Equipment Storage

Nuclear Gauges, when not in use shall be stored in a locked enclosure in such a manner as to prevent unauthorized access or removal.

During operations, the Nuclear Gauge shall be continuously under the direct control of an authorized operator. The gauge will not be left unattended.

During transportation in company authorized vehicles the Nuclear Gauges will be transported in their approved containers which will be secured against removal during transport. At temporary jobsites, Gauge storage may be inside locked vehicles.

SECTION 6

(A thru E)

Radiation Safety Program

Item 10 of NRC Form 313

## Personnel Monitoring
## (6A)

All personnel using Nuclear Gauges will be assigned either Film Badges or Thermoluminescent dosimeters to be worn during any operations involving Nuclear Gauges. Film Badge change intervals will not exceed 1 month. TLD change intervals will not exceed 3 months. Radiation exposures will be controlled within applicable NRC Regulations.

## Leak Testing
## (6B)

Leak testing of Nuclear Gauge Devices shall be preformed at intervals not to exceed six (6) months. These tests will be capable of detecting 0.005 microcurie of Radioactivity. Typical Commercial leak test kits similar to those listed below shall be used to take smears and these shall be forwarded to an approved assay company for analysis. Leak test smears shall be taken by those individuals approved by the RSO.

Typical commercial leak test kits:

Kit model INCA provided by:

Industrial Nuclear Inc.
2506 Davis Street
San leandro, CA 94577

Kit INCA will be analyzed by (or equivalent):

Radiation Detection Co.
162 N. Wolfe Road
Sunnyvale, CA 94088

Kit model No. 3880 provided and analyzed by:

Troxler Electric Laboratories
3008 Cornwallis Road
Research Triangle Park, NC 27709

## Maintenance
(6C)

Periodic Maintenance including cleaning and minor mechanical/electronic repair shall be performed with the source in the shielded position. No maintenance is to be performed that includes removal of the source from the gauge. For this type of service, the device will be returned to the manufacturer.

## Transportation of Equipment
(6D)

All possible means shall be provided to ensure that the equipment is fully secured in the transporting vehicle and the equipment is away from the passenger compartment. When transporting in an enclosed vehicle (car or van), the vehicle will be locked. When transporting in an open bed vehicle, the gauge should be securely fastened and locked to the truck bed.

The gauge will be transported in an approved and properly labelled transportation case. The packaging and transport of the device shall be in accordance with the applicable D.O.T. Regulations.

## Operating and Emergency Procedures
(6E)

Each authorized Nuclear Gauge Operator will be provided with written operating and emergency procedures. As a minimum, these procedures shall consist of the following:

Use of Personnel Monitoring: All personnel who use the device should wear their personal dosimeters when they are working with the device.

Use of the Device: Step-by-step procedures for the use of the device.

Storage of the Device: Procedures for storage of the device when it is not in use or under the physical surveillance of a user.

Transportation: Procedures for transporting devices to and from work sites.

Leak-Testing: Procedures for performing leak tests.

Emergency Procedures: Steps for workers to take, including individuals to be notified.

Copies of the above mentioned procedures are available for inspection as may be required.

SECTION 7

Waste Management

Item 11 of NRC Form 313

Source disposal shall be accomplished by either transferring the Nuclear Gauges to Licensees specifically authorized to possess them, or by transfer to the device manufacturer for final disposal.