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

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 05-13016-01

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

Department of Transportation
Federal Highway Administration
Central Direct Federal Division
555 Zang Street, P. O. Box 25246
Denver, Colorado 80225

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

Materials Division
Building 52, DFC
Denver, Colorado

Temporary job sites of the licensee anywhere in the United States.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION: John J. Germain

TELEPHONE NUMBER: (303) 236-4394

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. see attachment 1

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED. see attachment 2

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE. see attachment 3

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS. see attachment 4

9. FACILITIES AND EQUIPMENT. see attachment 5

10. RADIATION SAFETY PROGRAM. see attachment 6

11. WASTE MANAGEMENT. sealed sources will be returned to the manufacturer

12. LICENSEE FEES *(See 10 CFR 170 and Section 170.31)*
   FEE CATEGORY | AMOUNT ENCLOSED $

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
John J. Germain	JOHN J. GERMAIN	SPECIAL PROJECTS ENGINEER	3 APRIL 1989

9001160328 890825
REG4 LIC30
05-13016-01 PDR

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS	APPROVED BY
Ren	Apr-2-1B	EXP	FEE EXEMPT (170.11(a)(5))	M. Russ
AMOUNT RECEIVED	CHECK NUMBER			DATE 4/12/89

RECD 04-10-89

420794

ATTACHMENT NO.3 FOR BLOCK NO.7

Radiation Safety Officer
Mr. John J. Germain

Mr. Germain was our Radiation Safety Officer from 1969 to 1971. He was individually licensed by the State of Colorado from 1972 through 1982. License numbers 124-01 and 124-02.

Radiological courses completed:

Radiological Disaster Recovery U.S. Navy	40 hours
Disaster Recovery, Civil Defense, University of Co	40 hours
Campbell Pacific Nuclear Corp.	8 hours
Troxler Electronics	8 hours
Radiation Safety, University of Arizona	24 hours

Mr. Germain has been associated with radiation safety and by product use for the past 20 years.

Deputy Radiation Safety Officer
Mr. Jesse Martinez

Radiological Courses Completed:

Seventeenth Annual Nuclear Gauge Conference, Troxler Lab.	16 hrs.
Nuclear Gauge Conference, Troxler Lab.	16 hrs.

Mr. Martinez has worked in our repair and calibration facility for the past 6 years.

ACCIDENTS AND INCIDENTS

- In case a gauge is lost or stolen, or involved in an accident which might cause physical damage to the source, the operator must immediately notify the RSO.

- The RSO will immediately notify the following authorities will provide instructions and assistance in accordance with the circumstances of the incident:

  Nuclear Regulatory Commission Officer
  Manufacturer of gauge
  Public Health Office (if necessary)

- In the event of the possibility of damage to the source or source control mechanism, the operator will keep unauthorized persons at least 10 feet from the gauge and prevent removal of the gauge off the site until authorization by the RSO or appropriate authority.

- If the gauge is lost or stolen, immediately notify the local police or other law enforcement agency within whose jurisdiction the incident occurred.

The sources specified shall be tested for leakage and/or contamination at intervals not to exceed year*. Any source received from another person which is not accompanied by a certificate indicating that a test was performed within months before the transfer shall not be put into use until tested.

Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.

Any source in storage and not being used need not be tested. When the source is removed from storage for use or transfer to another person, it shall be tested before use or transfer.

The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. a report shall be filed within five days of the date the leak test result is known with the U. S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Dirve, Suite 1000, Arlington, Texas 76011, AttN: Chief, Nuclear Materials and Emergency Preparedness Branch. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.

The licensee is authorized to collect leak test samples for analysis by Troxler Electronic Laboratories, or tests for leakage and/or contamination shall be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

*Note: Federal Highway Administration has used sealed source nuclear moisture density gauges for over 20 years. No leakage of these sources has ever been detected. Considering the data as compiled, Leak testing once a year seems sufficient.

Training:

Training of personnel in the operation and safety precautions of the nuclear gauges is the direct responsibility of the RSO. All project personnnel will receive training in the following areas before they are allowed to operate the nuclear gauges:

Radiological Safety:

1. Principles and practices of radiation protection
2. Leak testing procedures
3. Biological effects of radiation
4. Monitoring techniques and instruments to detect radiation
5. Accident and incident procedures
6. Procedures for nuclear gauge storage and transportation
7. General safety precautions

Gauge Operations:

1. Operation procedures
2. Maintenance
3. Field use
4. Gauge calibration principles
5. Gauge idiosyncrasies

An "Authority for Custody and Use of Nuclear Moisture-Density Gauge" form (appendix B, Item 1) will be filled out for those completing the 8-hour (minimum) training course. The completed form will be placed in the RSO's training file. To retain operator status, one must be requalified every fifth year with a 4-hour (minimum) refresher course. A copy of the form used to document the refresher course is included in Appendix B, Item 2. This completed form will also be placed in the RSO's training file.

Training/operator will be so designated when an individual has shown through training received and operating techniques that the person is qualified to train operators. To maintain the status, a 4-hour refresher course must be completed every third year. Documentation of training/operator status will be included on the previously discussed "Authority for Custody and Use of Nuclear Moisture-Density Gauge" form. The refresher course will be documented on the form included in Appendix B, Item 2. both forms will be retained by the RSO.

The project engineer is responsible for the supervision of all training given on his/her project and must notify the RSO to keep training records current. Sample forms prepared for this purpose are in Appendix B, Items 3 and 4.

Oct 20, 1978.

Special Notice to Female Personnel

The information on the memorandum noted in Appendix A, Items 3 and 4 should be provided to any female personnel prior to being trained to operate the nuclear gauges. If, after being provided this information, the employee elects not to operate the gauge, let that decision stand. Should the employee elect to operate the gauge she must complete a copy of Sheet 1 of 5 and submit it to the RSO.

ATTACHMENT NO.5 FOR BLOCK NO.9

Licensed material may be used at licensee's Materials Division, Building 52, Denver Federal Center, Denver, Colorado, and at temporary job sites of the licensee anywhere in the United States.

SAFETY PROGRAM

Safety Procedures:

- Do not operate or attempt to operate a gauge unless you have been authorized to do so. (Licensed by RSO).

- Do not attempt to repair, modify or open the sealed source under any circumstances.

- Wear a film badge at all times while operating or transporting a gauge.

- Follow established operating procdures when using the gauge.

- Keep unauthorized persons away from the gauge.

- Keep the gauge in the "Safe" or storage position when not in use.

- Be sure that the gauge is locked within an authorized area (closet, cabinet, vehicle, etc.) when not in use. Security against the theft of a radioisotope is of utmost importance and must not be neglected. The storage area should be plainly labeled with a radiation warning sign of the approved type. Radiation levels outside of the storage area must not be more than 2 MREM/HR.

- Gauges may only be transported by authorized personnel in approved vehicles and may not be transported on the front or rear seats of any vehicle. If a pickup truck is used, the gauge must be locked in an enclosure (cabinet, shipping case, etc.) and the enclosure tied securely (chained, bolted, etc.) to the bed of the truck in order to prevent loss or theft. Radiation levels at the driver and passenger seats and at the outside surface of the vehicle must not be more than 2 mrem/hr.

- Ensure that the gauge is leak tested at proper intervals.

- When in doubt, ask.

ATTACHMENT NO.1 FOR BLOCK NO.5

Byproduct, Source, and/or Special Nuclear Material	Chemical and/orPhysical Form	Maximum Amount That License May Possess At Any One Time Under This License
A. Americum-241	A. Sealed sources (Troxler Dwg. No. A-100337, Rev. B)	A. Not to exceed 300 millicuries per source
B. Americium-241	B. Sealed Sources (Troxler Dwg. No. A-102451)	B. Not to exceed 50 millicuries per source
C. Cesium-137	C. Sealed sources (Troxler Dwg. No. A-102112)	C. Not to exceed 10 millicuries per source
D. Americium-241	D. Sealed neutron sources (Troxler Dwg. No. A-100337)	D. Not to exceed 330 millicuries per source
E. Cesium-137	E. Sealed sources (Campbell Pacific Nuclear Model CPN-131)	E. Not to exceed 10 millicuries per source
F. Americium-241	F. Sealed neutron sources (Campbell Pacific Nuclear Model CPN-131)	F. Not to exceed 50 millicuries per source
G. Americium-241	G. Sealed neutron source (Troxler Dwg. No. A-100608)	G. Not to exceed 110 millicuries per source

ATTACHMENT NO. 2 FOR BLOCK NO. 6

Authorized Use

A. For use in Troxler Model 2226 gauges for measurement of asphalt content.

B. For use in Troxler Model 3400 Series moisture/density gauges for measurement of properties of materials.

C. For use in Troxler Model 3400 Series moisture/denisty gauges for measurement of properties of materials.

D. For use in Troxler Model 3241 gauges for measurement of asphalt content.

E. For use in Campbell Pacific Portaprobe Model MC Series moisture/density gauges for measurement of properties of materials.

F. For use in Campbell Pacific Portaprobe Model MC Series moisture/density gauges for measurement of properties of materials.

G. For use in Troxler Model 3241C gauges for measurement of asphalt content.