NRC FORM 313 (10-2005) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH.

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

03035281

IF YOU ARE LOCATED IN:

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

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

P.O. 3

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-4005

RECEIVED
REGION 1
NOV 30 PM 12:41

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 JURISDICTIONS.

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

- [ ] A. NEW LICENSE
- [ ] B. AMENDMENT TO LICENSE NUMBER
- [X] C. RENEWAL OF LICENSE NUMBER 41-25501-01

X

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*

JEFFERSON, BRENNER & SMITH, INC dba
SOUTHERN CONSULTING
1208 HIGHWAY 47E
DICKSON, TN 37055

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

1208 HIGHWAY 47E
DICKSON, TN 37055

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

TRENT SMITH

TELEPHONE NUMBER

615.740.8777

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 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.

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

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

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*
FEE CATEGORY 3.P. AMOUNT ENCLOSED $ 1400

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, 36, 39, AND 40, AND THAT ALL INFORMATION CONTANED 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.

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
TRENT SMITH, PE, RSO		11-24-09

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		

APPROVED BY	DATE
	12/3/09

NRC FORM 313 (10-2005) PRINTED ON RECYCLED PAPER

NMSS/RGN1 MATERIALS-002

5. RADIOACTIVE MATERIAL

Cesium 137; Cs-137 – 11mCi
Americium 241; Am-241:Be – 55mCi

MANUFACTURER	MODEL NUMBER	SERIAL NUMBER
Humboldt	5001	2737
Humboldt	5001	2491
Humboldt	5001	2446
Campbell Pacific	MC-IDRP	MD80604368
Instrotek	3500 Xplorer	594

Each source is registered as an approved source by Tennessee. The activity per source and maximum activity per device will not exceed the maximum activity listed on the approved certificate of registration approved by Tennessee.

6. PURPOSE FOR WHICH MATERIAL WILL BE USED

Material will be used to measure the physical properties of materials including moisture content and density of soil.

7. INDIVIDUAL RESPONSIBLE FOR RADIATION SAFETY PROGRAM

TRENT SMITH, P.E.
Training: 02/26/98; 8 hours; formal course
Principles and practices of radiation protection
Radioactivity measurement standardization and monitoring techniques and instruments
Mathematics and calculations basic to use and measurement of radioactivity
Biological effects of radiation
Experience: 11.5 years
Soil, aggregate and asphalt testing

8. TRAINING FOR INDIVIDUALS WORKING IN RESTRICTED AREAS

EMPLOYEE	TRAIN DATE	YEARS EXP.
Michael Flowers	05/15/08	2.5
Kim Harrington	02/21/05	5.5
Kevin Louis	05/20/08	1.5
Trent Smith	02/26/98	11.5
Shaun Weatherspoon	11/14/06	5.5
William Woolery	01/18/00	9.5

See Attachment 1 for training certificates.

9. FACILITIES AND EQUIPMENT

No information required.

10. RADIATION SAFETY PROGRAM

See Attachment 2 for safety program.

Gauges include the following:

MANUFACTURER	MODEL NUMBER	SERIAL NUMBER
Humboldt	5001	2737
Humboldt	5001	2491
Humboldt	5001	2446
Campbell Pacific	MC-IDRP	MD80604368
Instrotek	3500 Xplorer	594

11. WASTE MANAGEMENT

No material is to be disposed.

Southern Consulting

Nuclear Gauge Safety Training Certificate

Mr. Mike Flowers

HAS SUCCESFULY COMPLETED A CERTIFIED SAFETY TRAING COURSE ON RADIATION SOIL DENSITY GAUGES. THE COURSE INCLUDED, RADIATION, TRANSPORT AND OPERATION SAFETY FOR INSTRUCMENTS USING GAMMA AND NEUTRON RADIAITION TO MEASURE THE PROPERTIES OF SOILS AND CONSTRUCTION MATERIALS

Topics Covered By the Training Include:
Types Of Ionizing Radiation
Biological Effects
Methods of Protection
Leak Testing Procedures
Transportation Safety Procedures
Regulations
Accident Prevention
Instrument Theory and Operation
Standardization and Calibration
Test Location
Field Operations
Measurement Errors

Date of Training: May 15, 2008
Location: Dickson, TN

Instructor: Mr. Trent Smith
Southern Consulting
1208 Hwy 47 E
Dickson, TN 37055

Southern Consulting, LLC

Nuclear Gauge Safety Training Certificate

Ms. Kim Starkey

HAS SUCCESFULY COMPLETED A CERTIFIED SAFETY TRAING COURSE ON RADIATION SOIL DENSITY GAUGES. THE COURSE INCLUDED, RADIATION, TRANSPORT AND OPERATION SAFETY FOR INSTRUCMENTS USING GAMMA AND NEUTRON RADIAITION TO MEASURE THE PROPERTIES OF SOILS AND CONSTRUCTION MATERIALS

Topics Covered By the Training Include:
Types Of Ionizing Radiation
Biological Effects
Methods of Protection
Leak Testing Procedures
Transportation Safety Procedures
Regulations
Accident Prevention
Instrument Theory and Operation
Standardization and Calibration
Test Location
Field Operations
Measurement Errors

Date of Training: February 21, 2005
Location: Dickson, TN

Instructor: Mr. Trent Smith
Southern Consulting, LLC
1208 Hwy 47 E
Dickson, TN 37055

Southern Consulting

Nuclear Gauge Safety Training Certificate

Mr. Kevin Louis

HAS SUCCESFULY COMPLETED A CERTIFIED SAFETY TRAING COURSE ON RADIATION SOIL DENSITY GAUGES. THE COURSE INCLUDED, RADIATION, TRANSPORT AND OPERATION SAFETY FOR INSTRUCMENTS USING GAMMA AND NEUTRON RADIAITION TO MEASURE THE PROPERTIES OF SOILS AND CONSTRUCTION MATERIALS

Topics Covered By the Training Include:
Types Of Ionizing Radiation
Biological Effects
Methods of Protection
Leak Testing Procedures
Transportation Safety Procedures
Regulations
Accident Prevention
Instrument Theory and Operation
Standardization and Calibration
Test Location
Field Operations
Measurement Errors

Date of Training: May 20, 2008
Location: Dickson, TN

Instructor: Mr. Trent Smith
Southern Consulting
1208 Hwy 47 E
Dickson, TN 37055

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

TRENT SMITH

of

SOUTHERN ENGINEERING CSTL

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. [illegible]
3. [illegible]
4. [illegible]
5. *Radioactivity measurement standardization and monitoring techniques and*
6. [illegible]
7. [illegible]

Gauge Operation

1. *Instrument theory*
2. *Operating procedures*
3. *Maintenance*
5. *Gauge calibration*

CERTIFICATE #: 080272

ROBERT E. JOINER
INSTRUCTOR

2/26/98
DATE

WILLIAM P. TROXLER
PRESIDENT

№ 44524

Certificate Of Completion

This is to certify that **Shaun Weatherspoon** *has completed the basic CPN® training course on Radiation Safety and Use of Nuclear Gauges, held this* **14th** *day of* **November 2006** *in the City of* **San Clemente** *State of* **CA** *by CPN International.*

CPN International, Inc.
2830 Howe Road
Martinez, CA 94553 USA
Phone: (925) 228-9770
Fax: (925) 228-3183

CPN

Charles D. Cherry
INSTRUCTOR

Douglas Carter
RADIATION SAFETY OFFICER

LITHO IN U.S.A.

HUMBOLDT SCIENTIFIC, INC.

Nuclear Gauge Training Certification

William E. Woolery

HAS SUCCESSFULLY COMPLETED A CERTIFIED COURSE ON RADIATION SAFETY, TRANSPORT AND OPERATION OF INSTRUMENTS USING GAMMA AND NEUTRON RADIATION TO MEASURE THE PHYSICAL PROPERTIES OF CONSTRUCTION MATERIALS

Subjects included were:

Types and basic unit of ionizing radiation.
Calculations related to radiation safety.
Biological effects of radiation.
Methods of protection.
Leak testing procedures.
Procedures for safe transport (HAZMAT) and storage.
Federal and State Regulations.
Accident prevention and procedures.
Instrument theory and operation.
Limitations of field maintenance.
Instrument standardization and calibration.
Test site selection and preparation.
Field operation and calculations.
Types and reasons for measurement errors.

Date of Training: January 18, 2000
Location: Memphis, TN
Certificate Number: 2352
HAZMAT Expiration Date: January 18, 2003

Instructor: Eddie G. Hall
Humboldt Scientific, Inc.
551 -D Pylon Drive
Raleigh, NC 27606

Radiation Safety Program

This document to be located as follows:

- Company File
- **Storage Box for each gauge**
- Inside bound Nuclear Gauge Bill of Lading Notebook **(located on front seat of each truck)**

1. Introduction

Southern Consulting has made employee and public safety a priority that will not be compromised. The Radiation Safety Program is a part of the Company's written Health and Safety Plan. The following Radiation Safety Program is to be read, understood and followed by all of the company's employees, officers and owners. Failure to comply with the Health and Safety Plan and this Radiation Safety Program is cause for immediate termination from employment.

Additionally, as safety issues can not be fully identified, it is everybody's responsibility to notify the Company Safety Coordinator of any and all safety concerns and alternative safety procedures that may improve worker safety. This document shall be continually revised to incorporate new and better procedures and methods.

2. Radiation Safety Officer

The Radiation Safety Officer has the responsibility and authority of implementing the Radiation and Safety Program. The responsibilities of the Radiation Safety Officer include the following:

- To ensure that all terms and conditions of the license are being met and that information contained in license is up-to-date.
- To ensure that the equipment has been leak tested in the required timely manner and that the leak test is performed as prescribed by the gauge manufacturer.
- To ensure that the use of the equipment is only by individuals that have been authorized by the Radiation Safety Officer and that all users wear personal monitoring equipment when using the gauge.
- To maintain records required by the license and the regulations. These records shall include personal exposure records, leak test records, training certificates for all users, and an inventory.
- To ensure that the equipment is properly secured against unauthorized removal at all times when it is not in use.

- To serve as a contact person in emergencies. As the contact person, the Radiation Safety Officer is to notify proper authorities where needed of emergency situations, remedial action taken, etc.
- To ensure that all users have read and understand the radiation safety program.

3. Emergency Procedures

In the event of any physical damage to a gauge, the following steps must be taken:

- Locate the "source"
- Cordon off an area 15 feet in radius from the gauge. The intrusion of unauthorized personnel shall be prevented.
- If a vehicle is involved, it must not be moved until the extent of the contamination (if any) of the vehicle is determined.
- Make a visual inspection of the gauge to determine whether any damage to the housing or shield has been sustained.
- Notify the Radiation Safety Officer as soon as the situation has been stabilized and is under control. Describe the existing situation first, then follow the Radiation Safety Officer's instructions.

4. Lost or Stolen Gauge

In the Event the gauge is lost or stolen, the radiation safety officer shall be notified immediately.

Designation of Company Safety Staff and Emergency Phone Numbers

Safety Coordinator	Ilia Jefferson	(615)740-8777
Radiation Safety Officer:		
Trent Smith	Office	(615)740-8777
	Mobile	(615)405-7050

5. Transportation Procedures

To keep radiation exposures as low as reasonably possible (ALARA), the following procedures shall be followed when transporting the equipment:

- Secure the gauge in the manufactures supplied case.
- Locate gauge as far from passenger compartment as is practical.
- Secure the gauge/case to prevent shifting and to prevent voluntary ejection.
- When in an enclosed vehicle, the vehicle shall be kept locked at all times.

- When transported in an open bed vehicle, the case shall be locked to the bed with two secure devices: (1) a ratchet type strap (to allow for a tight secure tie down), and (2) a chain with lock shall be used to secure the device from theft and from accidental discharge from the vehicle.
- The case shall be locked with a key lock at all times the gauge is not being used, including during transport.
- As part of the transport procedure, the vehicle operator shall have a properly completed Bill of Lading and Emergency procedure for each gauge.
- **The gauge box will also be clearly marked with the telephone number of Southern Consulting to allow for a quick contact to the Company in the event gauge is separated from the vehicle and operator.**
- Please note, the manufactured supplied case must be properly labeled. In the event label is missing or not legible, the Radiation Safety Officer must be notified immediately.

6. Utilization Procedures

To keep radiation exposures ALARA, the following procedures shall be followed during utilization of the equipment:

- The authorized user shall always wear the personal monitoring device (assigned to him) whenever the gauge is being used. Additionally, the user shall always wear the personal monitoring device whenever he is approaching the gauge or removing it from storage etc.
- When not being used, the personal monitoring device shall be stored in a radiation free location as far from the gauge as possible.
- When in the "field" the authorized user must never allow the gauge to be used by any other persons. Additionally, the gauge shall never be left unattended. In general the gauge shall never be outside of the authorized user's control.
- When not being used, the gauge should be placed in the transportation case and returned to the permanent storage areas as soon as possible.

7. Maintenance and Leak Test Procedures

Maintenance and leak detection shall be performed on an interval approved by the state of Tennessee. To keep radiation exposure ALARA, the following maintenance procedures shall be performed:

- During maintenance and leak detection procedures, the user shall wear the personal monitoring device at all times.

- Routine maintenance will be conducted according to each manufacturer's recommendations and instructions.
- Removal of the "source" shall **not** be performed by any employee of Southern Consulting. For non-routine maintenance which requires detaching the source or source rod from the gauge, the gauge will be sent to the manufacturer or other person authorized by Tennessee.
- Leak tests shall be performed a minimum of every six months using a manufactured supplied leak detection kit and returned to the manufacturer.

8. Instruments

Southern consulting will possess and use a radiation survey meter that meets the criteria in the section entitled "Radiation Safety Program – Instruments" in NUREG-1556, Vol. 1 Rev. 1, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses," dated November 2001, in the event of an incident. The instrument owned by Southern Consulting for radiation detection is the Troxler Troxalert PN104260001. This instrument is maintained in the office of Southern Consulting.

9. Material Receipt and Accountability

Physical inventories will be conducted at intervals not to exceed 6 months to account for all sealed sources and devices received and possessed under the license.

10. Occupational Dosimetry

Southern Consulting provides dosimetry processed and evaluated by an NVLAP-approved processor that is exchanged at a frequency recommended by the processor.

11. Audit Program

Southern Consulting will conduct an audit each year to confirm the following:

a. Compliance with NRC and DOT regulations
b. Occupational doses are as low as reasonably possible

Records of the audit will be maintained for three years.

12. Termination of Activities

Should Southern Consulting choose to cease activities, the NRC will be notified within 60 days. The guidance document "Waste Management – Gauge Disposal or Transfer" will be followed for decommissioning gauges.

13. Waste Management

The guidance document "Waste Management – Gauge Disposal or Transfer" will be followed for disposal of gauges.

This is to acknowledge the receipt of your letter/application dated

11/24/04, and to inform you that the initial processing which includes an administrative review has been performed.

Proposal (41-25501-01)

☒ There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

_____.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 144315.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader