

## Cook, Jackie

---

**From:** Bob Mayer [Mayerb@pcaengsur.com]  
**Sent:** Tuesday, July 24, 2012 5:35 PM  
**To:** Cook, Jackie  
**Subject:** RE: DEFICIENCY EMAIL FOR PCA ENGINEERING, INC. RENEWAL APPLICATION, License: 49-27418-01, Docket: 030-32555, Control: 577022 Deficiency Letter dated July 21, 2012  
**Attachments:** License Renewal for NRC(2012) (2).pdf

Ms. Cook,

Attached is a revised license renewal form with the required deficiency corrections made on the attachment. Please let me know if there is anything else that you need from us, or if you need an original of any of these documents mailed to you.

Thank You again for your attention in this matter.

Bob Mayer

---

**From:** Cook, Jackie [<mailto:Jackie.Cook@nrc.gov>]  
**Sent:** Saturday, July 21, 2012 4:01 PM  
**To:** Bob Mayer  
**Subject:** DEFICIENCY EMAIL FOR PCA ENGINEERING, INC. RENEWAL APPLICATION  
**Importance:** High

Mr. Mayer:

Attached you will find additional clarifications and deficiencies for PCA Engineering, Inc. that need to be resolved before issuing the renewal license. Please respond to this e-mail by **Tuesday, July 31, 2012**.

Thanking you in advanced for your prompt response.

Please don't hesitate to contact me at your convenience if you have any questions.

Sincerely,

*Jacqueline "Jackie" D. Cook*  
Senior Health Physicist  
Division of Nuclear Materials Safety  
Nuclear Materials Safety Branch B  
1600 E. Lamar Blvd., Arlington, TX 76011  
817-200-1132 (office)/817-200-1263 (fax)  
e-mail address: [Jackie.Cook@nrc.gov](mailto:Jackie.Cook@nrc.gov)

NRC FORM 313  
(05-2012)  
10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIALS LICENSE

APPROVED BY OMB: NO. 3150-0120

EXPIRES: (03/31/2012)

Estimated burden per response to comply with this mandatory collection request: 4.3 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 Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [InfoCollect.Resource@nrc.gov](mailto:InfoCollect.Resource@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:

OFFICE OF FEDERAL & STATE MATERIALS AND  
ENVIRONMENTAL MANAGEMENT PROGRAMS  
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS  
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, 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  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

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

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS,  
LOUISIANA, MISSISSIPPI, 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  
1600 E. LAMAR BOULEVARD  
ARLINGTON, TX 76011-4511

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

☒ C. RENEWAL OF LICENSE NUMBER 49-27418-01

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

PCA Engineering, Inc  
P.O. Box 2185  
Gillette, WY 82717-2185

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

PCA Engineering, Inc  
4506 Wigwam Boulevard  
Gillette, WY 82718

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Robert Mayer

TELEPHONE NUMBER

(307)-687-0600

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

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.

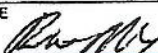
THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND 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.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Robert Mayer RSO/Lab Manager

SIGNATURE



DATE

6-4-12

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	



**Items 5-11****#5- a. Element and mass number-**

- 1) Cesium-137
- 2) Americium-241
- 3) Californium-252
- 4) Americium-241
- 5) Americium-241
- 6) Cesium-137

**b. Chemical and/or physical form**

- 1) Sealed sources (AEA Technology/QSA, Inc, Model CDCW556, Isotope Product laboratories Models HEG-137 or HEG 137-8M or Troxler Dwg. No. A-102112)
- 2) Sealed neutron sources (AEA Technology/QSA, Inc, Model AMNV.997, Isotope Product Laboratories Models 3021, 3027 or Am1.NO2, or Troxler Dwg. No A102451)
- 3) Sealed sources (Isotope Product laboratories Model HEG-252)
- 4) Sealed Neutron sources (Troxler Dwg. No. A-102700)
- 5) Sealed neutron sources (Amersham Corporation Models AMNV.340 or AMNV.339)
- 6) Sealed sources (Troxler Dwg. No. A-100601, Rev. A)

**C. Maximum amount which will be possessed at any one time**

- 1) No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.
- 2) No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.
- 3) No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.
- 4) No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.
- 5) No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.

6) No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.

#### **#6- Purpose for which licensed material will be used**

Gauges will be used for the purposes described in their respective SSD Registration Sheets.

All three nuke gauges are used for Quality Assurance and Quality Control testing on Construction sites, testing moisture and density on soils and asphalt. PCA Engineering currently has no plans to purchase additional gauges.

#### **#7- Individuals responsible for Radiation Safety Program and their Training experience**

Before obtaining licensed materials, the proposed RSO will have successfully completed one of the training courses described in Criteria in the section entitled 'Individual(s) Responsible for Radiation Safety Program and Their Training and Experience-Radiation Safety Officer' in NUREG-1556, Vol. 1, Rev. 1, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses,' dated November 2001.

The designated RSO, Bob Mayer has completed Troxler Electronic laboratories, Inc. - RSO Training Course and Portable Nuclear Gauge Hazardous Materials D.O.T. Training Course by American Technical Institute, LLP.

#### **#8- Training of individuals working in or frequenting restricted Areas**

Before using licensed materials, authorized users will have successfully completed one of the training courses described in Criteria in the section entitled 'Training for Individuals Working In or Frequenting Restricted Areas' in NUREG-1556, Vol.1, Rev. 1, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses,' dated November 2001.

Training and experience for current gauge users is as follows:

Bob Mayer-RSO training, Hazmat Training  
Tim Oakley-Hazmat Training and refreshers, in-house safety training by RSO  
Brent Hardy-Hazmat Training and refreshers, in-house safety training by RSO  
Luke Antonich-Hazmat Training and refreshers, in-house safety training by RSO  
Sheila Miller-Hazmat Training and refreshers, in-house safety training by RSO  
Aaron Beyerl-Hazmat Training and refreshers, in-house safety training by RSO

PCA works primarily within the City of Gillette and Campbell County, but those who may work at Mine sites are MSHA certified and take an annual refresher course reviewing OHSA and MSHA regulations covering a wide range of health and safety practices.

#### **#9- Facilities and Equipment**

PCA Engineering is located at 4506 Wigwam Boulevard in Gillette, Wyoming and currently owns 3 Troxler Nuclear testing devices. The Nuclear testing devices are all stored in the materials testing lab in the North western corner of building. The Laboratory is located inside the building which has video camera surveillance of entrances. While stored in the laboratory each device is locked at 5 points (inside a locked laboratory, there are two independent chains and locks connecting each device container to a large stationary table, each device containers is locked with a paddle lock and also each source is locked on the inside of the container). When the gauges are transported: The source is locked, the case is locked and the two chains are locked independently to both sides of the truck. The total number of independent locks when in transport is 4. The total number of independent locks when in lab storage is 4 locks plus the locked building.

The inventory of gauging devices at PCA Engineering, Inc. is as follows:

1. Troxler Electronic Laboratories, Inc. Model 3430, Serial No. 31639
2. Troxler Electronic laboratories, Inc. Model 3430, Serial No. 22298
3. Troxler Electronic laboratories, Inc. Model 3430 *Plus*, Serial No. 60706

PCA Engineering currently has no plans to purchase additional gauges.

#### **#10-Radiation Safety Program**

Licensed material may be used or stored only at the following:

4506 Wigwam Blvd. Gillette, Wyoming

Used on temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction with Agreement States.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

Licensed material shall only be used by, or under the supervision and in the physical presence of, individuals who have received the training described in application dated February 28, 2002.



The Radiation Safety Officer (RSO) for this license is Robert Mayer.

Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.

We will possess and use, or have access to 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".

In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested and the test results received.

Sealed sources need not be leak tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. Not sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

The leak 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, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.

Tests for leakage and/or contamination shall be performed by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. In Addition, the licensee is to collect leak test samples but not perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

Records of leak test results shall be kept in units of microcuries and shall be maintained for 3 years.

Sealed sources or source rods containing licensed material shall not be opened or sources removed or detached from source rods or gauges by the licensee, except as specifically authorized.

The licensee shall conduct a physical inventory every 6 months, or at other interval approved by NRC, to account for all sources and/or devices received and possessed under the license.

Each portable gauge shall have a lock on the source rod, outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked in inside, outside case and two more locks chained to the vehicle when in transport or storage, or when not under the direct surveillance of an authorized user.

We will implement and maintain procedures for routine maintenance of our gauges according to each manufacturer's recommendations and instructions.

Except for maintaining labeling as required by 10 CFR Part 20 or 71, the licensee shall obtain authorization from NRC before making any changes in the sealed source, device, or source-device combination that would alter the description or specifications as indicated in the respective. Certificates of Registration issued either by the Commission pursuant to 10 CFR 32.210 or by an Agreement State.

We will send the gauge to the manufacturer or other person authorized by NRC or an Agreement State to perform non-routine maintenance or repair operations that require detaching the source or source rod from the gauge.

The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material.

If the licensee used unshielded sealed sources extended more than 3 feet below the surface, the licensee shall use surface casing that extends from the lowest depth to 12 inches above the surface and other appropriate procedures to reduce the probability of the source or probe becoming lodged below the surface. If it is not feasible to extend the casing 12 inches above the surface, the licensee shall implement procedures to ensure that the cased hole is free of obstruction before making measurements.

If a sealed source or a probe containing sealed sources becomes lodged below the surface and it becomes apparent that efforts to recover the sealed source or probe may not be successful, the licensee shall notify the U.S. Nuclear Regulatory Commission and submit the report required by 10 CFR 30.50(b)(2) and (c). The licensee shall not abandon the sealed source or probe without obtaining the Commission's prior written consent.

In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.

Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

PCA Engineering, Inc. will implement and maintain the operating and emergency procedures in Appendix H of NUREG-1556, Vol.1, Rev.1, 'Consolidated Guidance about Materials Licenses: Program-



Specific Guidance about Portable Gauge Licenses', dated November 2001, and provide copies of these procedures to all gauge users and at each job site.

**In addition of the above safety procedures followed, PCA Engineering has adopted the following safety guidelines:**

Current maps and radiation levels in areas throughout office are posted. A Geiger counter was used to determine levels of radiation at different distances from Nuclear Gauge Storage Area.

PCA Engineering has three Troxler Nuclear gauges currently and currently has no plans to purchase additional gauges.

PCA Engineering uses dosimeter badges to monitor absorption rates for each employee using/or certified to use Troxler gauges. To double check device, 2 leak tests are performed on each of three devices every 6 months in house. Also as required, PCA sends all three nuclear gauges to Troxler every other year for maintenance, calibration, and leak testing. The Materials Testing Department does biannual audits of safety program to ensure safety program is being followed.

#### **#11-Waste Management**

PCA Engineering has not disposed of any nuclear gauges. PCA Engineering would contact Bob Wilson (Troxler Contact in Denver) for proper disposal of testing device if disposal or replacement becomes necessary.

Application dated June 4, 2012.

Letter dated June 4, 2012