

**NRC FORM 313**  
(3-2009)  
10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

**U.S. NUCLEAR REGULATORY COMMISSION**

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 3/31/2012

**APPLICATION FOR MATERIALS LICENSE**

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 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.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  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

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  
612 E. LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TX 76011-4125

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 40-27560-01
- C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

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

**Schmucker, Paul, Nohr & Assoc. Inc**  
**dba Helms & Associates**  
**221 Brown County Highway 19 PO Box 111**  
**Aberdeen, South Dakota 57402**

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

**2100 North Sanborn Boulevard**  
**Mitchell, South Dakota and at temporary job sites in the**  
**United States subject to NRC authority**

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

**Harlan J. Quenzer, P.E.**

TELEPHONE NUMBER

**(605) 996-7761**

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

**Harlan J. Quenzer, P.E. - Principal/Division President**

SIGNATURE

*Harlan J. Quenzer, P.E.*

DATE

**10/17/09**

**FOR NRC USE ONLY**

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

**Ma 472446**



RECEIVED  
OCT 19 2009  
DNMS

**Schmucker, Paul, Nohr and Associates**  
2100 North Sanborn Blvd — PO Box 398  
Mitchell SD 57301-0398  
Phone (605) 996-7761  
Wats (800) 952-3598  
FAX (605) 996-0015

October 14, 2009

Rachel Browder, CHP  
NRC, Region IV  
Nuclear Materials Safety Branch B  
612 E. Lamar Blvd., Suite 400  
Arlington, Texas 76011-4125

Re: Amendment to License 40-27560-01

Dear Ms. Browder:

In response to your email sent on October 07, 2009, and our telephone conversations, we are submitting an application for an amendment to our current license number 40-24560-01. We are requesting the amendment to cover the two (2) Model C-200 and one (1) Model C-300 Seaman Nuclear Gauges currently located in our Mitchell, South Dakota office. For business flexibility, we are also requesting that the amendment cover Model C-75 in the event we need to rent or use a loaner gauge of this model.

In response to your email, the information requested for Item 1, sub items a-d is provided as follows:

**Leak Tests:**

Attached are the latest copies of the most recent leak tests done on our Model C-200 and Model C-300 Seaman Nuclear Gauges.

**Security Statement:**

Each of the portable Nuclear Gauge devices are stored in their respective transportation boxes in a locked room within a secured building when not being used at the various remote project locations. When transported to and from the various remote project locations and not used, the portable Nuclear Gauge devices are stored in their respective transportation boxes in a locked vehicle.

**Reason for Failure to Request License Amendment**

At the time we purchased our nuclear gauges, we had been advised by the Seaman Nuclear Corporation that the models being purchased were exempt from the nuclear licensing processes. We were made aware of the revised regulations on September 27, 2009 by Harry Seaman of the Seaman Nuclear Corporation in a phone conversation that date and subsequent per email and phone conversations with Scott Seaman regarding these new regulations and updated licensing. In conversations with Scott Seaman, we

No 4 7 2 4 4 6

Rachel Browder, CHP  
October 14, 2009  
Page 2

were told that we had been overlooked by Seaman Nuclear Corporation in their notification process regarding this situation. Until the September 27<sup>th</sup> phone conversation, we were unaware of any changes in the regulations requiring the licensing of our Seaman Nuclear gauges. Upon learning of the licensing requirements, we initiated actions including a phone call to you in regard to what steps needed to be taken to rectify this situation in the most expeditious manner possible.

**Item 1, sub items a-d information**

- a.) The copies of the leak test that are enclosed show that our gauges were in compliance with the requirements of the license.
- b.) We believe that our failure was not willful due the failure of Seaman Nuclear Corporation to notify our company of the updated regulation changes prior to September 27, 2009.
- c.) We also feel that our failure was not willful due the information received from Seaman Nuclear Corporation when the units were purchased that the devices being purchased (the C-200 and 300 Seaman Models) did not fall under the requirements of the NRC and therefore no licensing was required.
- d.) Upon being notified of these changes, immediate action was taken to contact the appropriate people and agencies to identify the steps to be taken to rectify the situation and prepare the applications for an amended license within 30 days from October 07, 2009.

Thank you for assistance and understanding.

Sincerely,

**SCHMUCKER, PAUL, NOHR and ASSOCIATES**



Harlan J. Quenzer, P.E.  
Principal / Division President

Enclosures

## **Devices and Sealed Source Details (rev. 5)**

### **Seaman Nuclear Corporation Models C-300, C-200, and C-75.**

#### **Isotope and maximum activity:**

- Cesium-137, 10 mCi (370 MBq) for model C-300, 8 mCi (296 MBq) for models C-200 and C-75.
- Americium-241:Beryllium, 50 mCi (1.85 GBq) for model C-300, 40 mCi (1480 MBq) for models C-200 and C-75.

#### **Gauge Manufacturer, Models, Registry:**

- Seaman Nuclear Corporation, Portable Moisture Density Gauge Models C-200 and C-300, SSD Registry NR-587-D-104-S
- Seaman Nuclear Corporation, Portable Moisture Density Gauge Model 75, SSD Registries NR587D105S and WI-587-D-108-S

#### **Source Manufacturers and models for Gauge Models C-200 and C-300 and C-75:**

- Amersham Models: CDC.804, CDC.805, AMN.6002, AMN.Q1954
- Du Pont Merck: NER-550 (formerly New England Nuclear)
- 3M: 4P6M
- Nuclear Sources and Services: AN-HPG, AN-HP, GT-GHP

#### **Additional Source Manufacturers and models for Gauge Model C-300:**

- Amersham Models: AMN.PE5, AMN.V997, CDC.800
- Gammatron Models: AN-HP, GT-GHP
- Isotope Products Laboratory Model: HEG-137

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#### **Isotope and nominal activity:**

- Radium-226:Beryllium, 4.5 mCi

#### **Gauge Manufacturer and models (radium):**

- Seaman Nuclear Corporation, Portable Moisture Density Gauge Models C-300, SSD Registry NR-587-D-104-S
- Seaman Nuclear Corporation Portable Moisture Density Gauge Model C-200, Registry WI-587-D-107-S
- Seaman Nuclear Corporation Portable Moisture Density Gauge Model C-75, Registry WI-587-D-108-S

#### **Source Manufacturers and models/drawings for Gauge Models C-300, C-200 and 75 (radium):**

- Radium Chemical Co., Drawing 21.94, SSD Registry NY-0763-S-109-S
- AEA, Model RAN.C1, SSD Registry MA-1059-S-878-S. (Formerly Amersham and product code RAN.W25 was listed as model.)

# Seaman Nuclear Corporation

7315 South First Street Oak Creek, WI 53154 USA

Tel 414-762-5100 Fax 414-762-5106

## Leak Test Certificate

October 12, 2009

A leak test has been performed on meter, serial number **H030**, a model C-200, containing the radionuclide Ra 226.

Owned By: Schmucker Paul Nohr & Associates  
P.O. Box 398  
Mitchell, SD 57301

Date Sample Collected: 1/30/09  
Collected By: D.L. French  
Date Sample Analyzed: 2/5/09  
Analyzed By: T. Lindemann

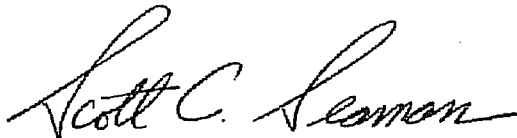
Most regulatory agencies consider a source to be leaking if a leak test reveals the presence of more than 0.005 microcurie of removable contamination.

Analysis found contamination of less than 0.005 microcurie.

Analysis authorized by Wisconsin license 079-1257-01.

Seaman Nuclear Corporation

**LEAK TEST DUE: 1/30/10**



Scott C. Seaman  
Radiation Safety Officer

# Seaman Nuclear Corporation

7315 South First Street Oak Creek, WI 53154 USA

Tel 414-762-5100 Fax 414-762-5106

## Leak Test Certificate

October 12, 2009

A leak test has been performed on meter, serial number **L206**, a model C-200, containing the radionuclide Ra 226.

Owned By: Schmucker Paul Nohr & Associates  
P.O. Box 398  
Mitchell, SD 57301

Date Sample Collected: 7/7/08  
Collected By: Kevin Roth  
Date Sample Analyzed: 7/18/08  
Analyzed By: T. Lindemann

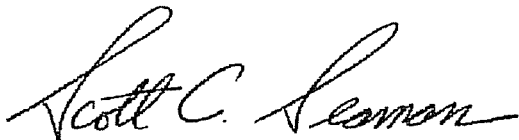
Most regulatory agencies consider a source to be leaking if a leak test reveals the presence of more than 0.005 microcurie of removable contamination.

Analysis found contamination of less than 0.005 microcurie.

Analysis authorized by Wisconsin license 079-1257-01.

Seaman Nuclear Corporation

**LEAK TEST DUE: 7/7/09**



Scott C. Seaman  
Radiation Safety Officer

# Seaman Nuclear Corporation

7315 South First Street Oak Creek, WI 53154 USA

Tel 414-762-5100 Fax 414-762-5106

## Leak Test Certificate

October 14, 2009

A leak test has been performed on meter, serial number **21306**, a model C-300, containing the radionuclide Ra 226.

Owned By: Schmucker Paul Nohr & Associates  
P.O. Box 398  
Mitchell, SD 57301

Date Sample Collected: 6/26/09  
Collected By: T. Lindemann  
Date Sample Analyzed: 6/26/09  
Analyzed By: T. Lindemann

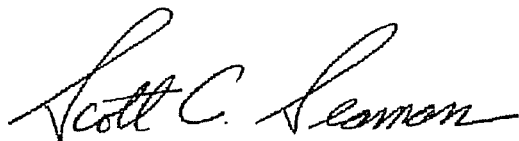
Most regulatory agencies consider a source to be leaking if a leak test reveals the presence of more than 0.005 microcurie of removable contamination.

Analysis found contamination of less than 0.005 microcurie.

Analysis authorized by Wisconsin license 079-1257-01.

Seaman Nuclear Corporation

**LEAK TEST DUE: 6/26/10**



Scott C. Seaman  
Radiation Safety Officer

472446

Official Use Only - Security-Related Information

ACCEPTANCE REVIEW MEMO (ARM)

Licensee: Schmucker, Paul, Nohr & Assoc., License: 40-27560-01  
Inc., dba Helms & Associates  
Docket: 030-34421 Mail Control: 472446  
Type of Action: Amend Date of Requested Action: 10/14/09  
Reviewer Assigned: Rachel Browder ARM reviewer(s): Torres

Response	Deficiencies Noted During Acceptance Review
	<p>[ ] Open ended possession limits. Submit inventory. Limit possession. [ ] Submit copies of latest leak test results. [ ] Add IC L.C./Fingerprint LC, add SUNSI markings to license. [ ] Confirm with licensee if they have NARM material. [ ] Change of contact information (RSO), send request to update IC database.</p>

Reviewer's Initials: \_\_\_\_\_ Date: \_\_\_\_\_

<input type="checkbox"/> Yes <input type="checkbox"/> No	Request for unrestricted release Group 2 or >. Consult with Bravo Branch.
<input type="checkbox"/> Yes <input type="checkbox"/> No	Termination request < 90 days from date of expiration
<input type="checkbox"/> Yes <input type="checkbox"/> No	Expedite (medical emergency, no RSO, location of use/storage not on license, RAM in possession not on license, other)
<input type="checkbox"/> Yes <input type="checkbox"/> No	TAR needed to complete action.

Branch Chief's and/or HP's Initials: \_\_\_\_\_ Date: \_\_\_\_\_

**SUNSI Screening according to RIS 2005-31**

Yes  No **Sensitive and Non-Publicly Available** if any item below is checked

General guidance:

- \_\_\_\_\_ RAM = or > than Category 3 (Table 1, RIS 2005-31), use Unity Rule
- \_\_\_\_\_ Exact location of RAM [suite #, bldg. #, location different from mailing address] (whether = or > than Category 3 or not)
- \_\_\_\_\_ Design of structure and/or equipment (site specific)
- \_\_\_\_\_ Information on nearby facilities
- \_\_\_\_\_ Detailed design drawings and/or performance information
- \_\_\_\_\_ Emergency planning and/or fire protection systems

Specific guidance for medical, industrial and academic (above Category 3):

- \_\_\_\_\_ RAM quantities and inventory
- \_\_\_\_\_ Manufacturer's name and model number of sealed sources & devices
- \_\_\_\_\_ Site drawings with exact location of RAM, description of facility
- \_\_\_\_\_ RAM security program information (locks, alarms, etc.)
- \_\_\_\_\_ Emergency Plan specifics (routes to/from RAM, response to security events)
- \_\_\_\_\_ Vulnerability/security assessment/accident-safety analysis/risk assess
- \_\_\_\_\_ Mailing lists related to security response

Branch Chief's and/or HP's Initials: 188 Date: 1-4-10



## **Browder, Rachel**

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**From:** Browder, Rachel  
**Sent:** Wednesday, October 07, 2009 7:00 PM  
**To:** 'kroth@spn-assoc.com'  
**Subject:** License Amendment  
**Attachments:** EGM.pdf; apph-errata.pdf; sr1556v1r1.pdf

Kevin,

This is in follow up to our telephone call today, regarding adding a field office in Mitchell, SD for NRC License No. 40-27560-01, for Seaman Nuclear gauges. Since the NARM waiver termination for South Dakota was executed on September 2008 and a license amendment should have been submitted within 6 months after that date, there is potential enforcement action. As we discussed on the telephone today, the agency realizes that there may be some entities that did not become aware of the NRC's new requirements in a timely manner. The important thing is that when you did become aware of it, you contacted us in order to initiate the amendment process.

Please refer to the attached EGM and in particular Item 1, subitems a-d. In order for us to assess the health, safety and security, please provide a copy of the latest leak test results and a statement regarding the security of the gauges as it relates to 10 CFR 30.34(i), which states in part that each portable gauge licensee shall use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever they are not under the control and constant surveillance of the licensee. I have also attached errata to Appendix H, NUREG 1556, Volume 1, which provides examples of implementing this regulation. As part of your amendment request, please describe your situation and when you became aware of the revised regulations and your subsequent actions. In this manner, we can fully address the subitems in the EGM during our internal discussions. We will let you know the outcome of the discussions when they are complete, and as part of the process, your company will have an opportunity to respond as necessary.

I have also attached an electronic version of Volume 1, for your information.

If you have any other questions, please do not hesitate to contact me.

Sincerely,  
Rachel Browder

*Rachel S. Browder, CHP*  
NRC, Region IV  
Nuclear Materials Safety Branch B  
612 E. Lamar Blvd., Suite 400  
Arlington, TX 76011-4125  
(817) 276-6552 (office) / (817) 860-8188 (fax)  
email address: [rachel.browder@nrc.gov](mailto:rachel.browder@nrc.gov)

(FOR LFMS USE)  
INFORMATION FROM LTS

BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

Program Code: 03121  
Status Code: 0  
Fee Category: 3P  
Exp. Date: 20170430  
Fee Comments:  
Decom Fin Assur Reqd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED  
Applicant/Licensee: SCHMUCKER, PAUL, NOHR & ASSOC., INC.  
Received Date: 20091019  
Docket No: 3034421  
Control No.: 472446  
License No.: 40-27560-01  
Action Type: Amendment

2. FEE ATTACHED  
Amount: \_\_\_\_\_  
Check No.: \_\_\_\_\_

3. COMMENTS

Signed \_\_\_\_\_  
Date 10-21-09

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / /)

- 1. Fee Category and Amount: \_\_\_\_\_
- 2. Correct Fee Paid. Application may be processed for:  
Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_
- 3. OTHER \_\_\_\_\_

Signed \_\_\_\_\_  
Date \_\_\_\_\_