

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p>Licensee</p> <p>1. Schmucker, Paul, Nohr & Associates, Inc. dba Helms & Associates</p> <p>2. Suite 333 Berkshire Plaza P. O. Box 111 Aberdeen, South Dakota 57402</p>		<p>3. License number 40-27560-01</p>
		<p>4. Expiration date May 31, 2007</p>
		<p>5. Docket or Reference No 030-34421</p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Cesium-137</p> <p>B. Americium-241</p>	<p>7. Chemical and/or physical form</p> <p>A. Sealed sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible gauging device as specified in Item 9 of this license</p> <p>B. Sealed sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible gauging device as specified in Item 9 of this license</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. See Condition 9.A.</p> <p>B. See Condition 9.B.</p>

9. Authorized use

A., B., and C. To be used, for measurement purposes, in compatible portable Boart Longyear Company (formerly Campbell Pacific Nuclear Company), Humboldt Scientific, Inc., Seaman Nuclear Corporation and/or Troxler Electronic Laboratories, Inc. gauging devices that have been registered either with NRC under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with an NRC or Agreement State specific license authorizing distribution to persons specifically authorized by an NRC or Agreement State license to receive, possess, and use the devices.

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

40-27560-01

Docket or Reference Number

030-34421

CONDITIONS

10. Licensed material may be used at the licensee's facilities located at 333 Berkshire Plaza, 405 8th Avenue NW, Aberdeen, SD, and may be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
11.
 - A. Licensed material shall only be used by, or under the supervision and in the physical presence of, the Radiation Safety Officer or individuals who have successfully completed the manufacturer's training program for gauge users, have received copies of, and training in, the licensee's operating and emergency procedures, and have been designated by the Radiation Safety Officer.
 - B. The Radiation Safety Officer for this license is Craig Harrison.
12.
 - A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210 or by an Agreement State.
 - B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
 - C. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
 - D. Sealed sources need not be leak tested if:
 - (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or

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12. (Continued)

(v) they are not designed to emit alpha particles, 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. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

E. 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.

F. The licensee is authorized to collect leak test samples for analysis by Troxler Radiation Monitoring Services. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

14. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.

15. Each portable gauge shall have a lock or 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 when in transport, storage, or when not under the direct surveillance of an authorized user.

16. 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.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

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Docket or Reference Number

030-34421

17. Any cleaning, maintenance, or repair of the gauges that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
18. 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."
19. The licensee shall not use sealed sources or probes containing sealed sources at depths exceeding 3 feet below the surface.
20. 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.
21. 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.
 - A. Application dated March 12, 1997
 - B. Facsimile of correspondence dated April 29, 1997

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date MAY 7 1997

By Billie Gruszynski
Billie Gruszynski (Ms.)
Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

511 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

May 7, 1997

Schmucker, Paul, Nohr & Associates, Inc.
dba Helms & Associates
ATTN: Jay C. Koch, P.E.
Suite 333 Berkshire Plaza
P. O. Box 111
Aberdeen, South Dakota 57402

SUBJECT: NEW LICENSE

Please find enclosed License 40-27560-01. You should review this license carefully and be sure that you understand all conditions. If you have any questions, you may contact the reviewer who signed your license at (817)860-8120.

You should note that License Condition 20 has been added to your license relative to the maximum amount of material you may possess under the license. This licensing action was necessary to preclude you from exceeding possession limits of materials requiring that decommissioning financial assurance be provided. Should you determine that you require possession of material in excess of 10 CFR 30.35(d) amounts, please notify us regarding an amendment to your license.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public which can result from failure to comply with NRC requirements, you must conduct your program involving radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Possess radioactive material only in the quantity and form indicated in your license.
3. Use radioactive material only for the purpose(s) indicated in your license.
4. Notify NRC in writing of any change in mailing address (no fee required if the location of radioactive material remains the same).
5. Request and obtain written NRC consent before transferring your license or any right thereunder, either voluntarily or involuntarily, directly or indirectly, through transfer of control of your license to any person or entity. A transfer of control of your license includes not only a total change of ownership, but also a change in the

controlling interest in your company whether it is a corporation, partnership, or other entity. In addition, appropriate license amendments must be requested and obtained for any other planned changes in your facility or program that are contrary to your license or contrary to representations made in your license application, as well as supplemental correspondence thereto, which are incorporated into your license. A license fee may be charged for the amendments if you are not in a fee-exempt category.

6. Maintain in a single document decommissioning records that have been certified for completeness and accuracy listing all the following items applicable to the license:
 - Onsite areas designated or formerly designated as restricted areas as defined in 10 CFR 20.3(a)(14) or 20.1003.
 - Onsite areas, other than restricted areas, where radioactive materials in quantities greater than amounts listed in Appendix C to 10 CFR 20.1001-20.2401 have been used, possessed, or stored.
 - Onsite areas, other than restricted areas, where spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site have occurred that required reporting pursuant to 10 CFR 30.50(b)(1) or (b)(4), including areas where subsequent cleanup procedures have removed the contamination.
 - Specific locations and radionuclide contents of previous and current burial areas within the site, excluding radioactive material with half-lives of 10 days or less, depleted uranium used only for shielding or as penetrators in unused munitions, or sealed sources authorized for use at temporary job sites.
 - Location and description of all contaminated equipment involved in licensed operations that is to remain onsite after license termination.
7. Submit a complete renewal application with proper fee, or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.
8. Request termination of your license if you plan to permanently discontinue activities involving radioactive material.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the

Schmucker, Paul, Nohr
& Associates, Inc.

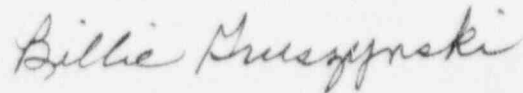
-3-

"General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 60 FR 34381, June 30, 1995.

Also enclosed, please find the NRC letter dated July 12, 1995, to all materials licensees which transmits the NRC Policy on Communications Between the NRC and Licensees. It is the intent of this policy to foster greater openness and candid communications and to improve interactions with our licensees. We encourage you and your staff to become familiar with these principles so that we can maintain a high level of professional communication at all levels in our organizations.

Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Billie Gruszynski".

Billie Gruszynski (Ms.)
Nuclear Materials Licensing Branch

Docket: 030-34421
License: 40-27560-01
Control: 466340

Enclosures: As stated

Schmucker, Paul, Nohr
& Associates, Inc.

-4-

DOCUMENT NAME:

To receive copy of document, indicate in box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

RIV:NMLB	N								
BGruszynski	<i>Bo</i>								
05/ 7/97									

OFFICIAL RECORD COPY

LEGAL IDENTITY QUESTIONNAIRE

The type of information requested by this form will be helpful to Region IV in performing its regulatory responsibilities and should be sought during initial licensing and subsequent routine inspection contacts with licensees. However, licensee provision of this information is not a requirement. If the licensee cannot supply all of the indicated information, obtain as much as possible, especially for smaller businesses. Information should be obtained informally by telephone or personal contact. This form shall be completed by Region IV personnel only. It should not be sent to an applicant or licensee nor should the information requests be part of any standard correspondence format. Place the completed copy of this form in the docket file.

Current Full Legal Name of Licensee: Schmucker, Paul & Associates, Inc.
d/b/a Helms & Associates

Previous Legal Name: _____

License No. 40-27560-01

Licensee Contact and Title: Jerry Helms, President
 Telephone: 605-225-1212

Form of business:

- ☐ Individual Person
- ☐ Sole Proprietorship
- ☐ List Owner's Name, Home Address, and Telephone No. below
- ☐ Partnership
- ☐ List Partners' Names, Home Addresses, and Tele Nos. below
- ☒ Corporation

Attach List of Names and Home Addresses for the following:

Corporate Officers Jerry D. Helms, Pres.
 Any Principal Stock Holder William A. Rohr, V-P
 Members of Board of Directors Harward A. Paul, Sec'y
Harlan J. Gruenzer, Treas.

Other (Provide detailed information below) _____

Billie Gruzynski
 NRC Staff Member

5/7/97
 Date

**HELMS and ASSOCIATES**

CONSULTING ENGINEERS • LAND SURVEYORS

m/s #16

T4

S P NA DIVISION OF
SCHMUCKER, PAUL, NOHR and ASSOC.

BOX 111

BERKSHIRE PLAZA

ABERDEEN, SD 57402-0111

405 8th AVENUE NW

PHONE (605) 225-1212

FAX: (605) 225-3189

April 29, 1997

To: U.S. Nuclear Regulator Commission

Name: Helms and Associates a division of
Schmucker, Paul, Nohr & Associates, Inc.

Date of Incorporation: June 27, 1964

State Of Incorporation: South Dakota

Corporation Officers: Terry D. Helms, President
Ellwyn A. Nohr, Vice-President
Howard A. Paul, Secretary
Harlan, J. Quenzer, Treasure

Terry D. Helms, President

466340

**Nuclear Regulatory Commission
Additions to Regulatory Guide
for Helms and Associates**

April 1, 1997

1.) - Addition to Item 8.1 Initial Training Received in a Gauge Manufacturer's Course

The RSO will conduct annual refresher training sessions for all gauge operators that will include the participation in "dry runs" of our emergency procedures. This session will also include an annual review of the operating and emergency procedures, DOT requirements, changes in regulations or license conditions, and of any deficiencies identified during the performance of annual audits of the radiation safety program. We will perform refresher training sessions at intervals not exceeding one year and will maintain records of the annual refresher training as required.

2.) - Addition to Item 9 Facilities and Equipment

The location of the permanent facilities is a zoned business area comprising of business offices and soils laboratory testing area.

Access to the nuclear gauges will be only to personnel approved by the RSO. Keys for entry will be restricted to only those personnel whom have received proper training and are authorized by RSO.

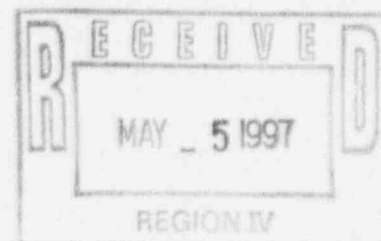
3.) - Addition to Item 10.5 Maintenance

The manufacturer shall perform all maintenance on gauges that require the source to be removed or exposed.

4.) - Addition to Item 10.8 Annual Audit of Radiation Safety Program

The staff engineer, assisting with annual audit, shall be trained in radiation safety from an approved Manufacturer's Training course.

The management of Helms and Associates, is committed to review annual audit and correct any deficiencies determined by the audit at the earliest possible time.



466340

CONVERSATION RECORD

TIME

DATE

5/7/97

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☒ INCOMING

☐ OUTGOING

ROUTING

NAME/SYMBOL

INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

ORGANIZATION (Office, dept., bureau, etc.)

TELEPHONE NO.

Terry Helms, Pres

Helms & Assoc.

*(605)
225-1212*

SUBJECT

Application for new license

SUMMARY

I had requested that Mr. Helms call me to explain further the corporate structure of their business. After speaking w/ Bill Brown concerning this, it seemed to both of us ^{they} to discuss further.

Mr. Helms called back to state that the corporation is Schmucker, Paul, Nahn & Associates, Inc. and his 4/29/97 letter lists corp. officers of that corp.

ACTION REQUIRED

Complete license

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Billie Krusynski 5/7/97

ACTION TAKEN

SIGNATURE

TITLE

DATE

CONVERSATION RECORD

TIME

DATE

5/6/97

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☐ INCOMING

☒ OUTGOING

ROUTING

NAME/SYMBOL

INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

ORGANIZATION (Office, dept., bureau, etc.)

TELEPHONE NO.

Jay Koch (Cook)

Helms & Assoc.

(605)

225-1212

SUBJECT

Application for new license

SUMMARY

1. Correspondence was not signed & should have been signed by an officer of the company.

2. Is the info concerning incorporation for Helms & Associates or Schmucker, etc?

Mr. Koch stated that Mr. Helms would need to talk w/ me about the incorporation. He is to have him call me ASAP.

Later 5/6/97 Mr. Helms faxed copy of incorporation info w/ signature.

ACTION REQUIRED

Take w/ Bill Brown & need to talk further w/ Mr. Helms.

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Billie Guesynski 5/6/97

ACTION TAKEN

SIGNATURE

TITLE

DATE

CONVERSATION RECORD			TIME	DATE 3/27/97
TYPE	<input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE	<input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING		
Location of Visit/Conference: <i>Announced</i>				
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	ORGANIZATION (Office, dept., bureau, etc.)	TELEPHONE NO.		
<i>Joef Kech</i>	<i>Helmut Associates</i>	<i>(605) 225-1212</i>		
SUBJECT <i>Application for new license</i>				
SUMMARY ✓ 1. Is facility in industrial park, (office complex, etc.)? ✓ 2. Who has keys to garage locked storage? ✓ 3. Where is Does mfr. perform maintenance when source must be removed? ✓ 4. Will the staff engineers who accompany the R50 in the annual audit be a trained authorized user? ✓ 5. Address management's prompt review of audit findings and prompt action to correct deficiencies. ✓ 6. Why would you send your people to Traylor for the annual refresher? Re-read 8.1 of Guide. Will Traylor prepare a special training to deal w/ dry runs of emerg. procedures, deficiencies you have identified in audit, specific to your program? ACTION REQUIRED: <i>Mr. Kech to send reply ASAP</i>				
NAME OF PERSON DOCUMENTING CONVERSATION		SIGNATURE	DATE	
		<i>Billie Drusynski</i>	<i>3/27/97</i>	
ACTION TAKEN				
SIGNATURE		TITLE	DATE	

(FOR LFMS USE)
INFORMATION FROM LTS

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

Program Code: 03121
Status Code: 3
Fee Category: _____
Exp. Date: 0
Fee Comments: _____
Decom Fin Assur Req'd: _____
.....

1997 MAR 19 PM 3:59

LICENSE FEE TRANSMITTAL

A. REGION IV

1. APPLICATION ATTACHED

Applicant/Licensee: HELMS AND ASSOCIATES
Received Date: 970318
Docket No.: 3034421
Control No.: 466340
License No.:
Action Type: New Licensee

2. FEE ATTACHED

Amount: \$550.00
Check No.: 4714

3. COMMENTS

Signed
Date

Billie Muszynski
3/18/97

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

1. Fee Category and Amount: 3P \$550

2. Correct Fee Paid. Application may be processed for:

Amendment
Renewal
License ✓

3. OTHER

Signed
Date

Rita Massion
3/20/97



Log	<u>Mar 3 IV</u>
Remitter	
Check No.	<u>4714</u>
Amount	<u>\$550</u>
Fee Category	<u>3P</u>
Type of Fee	<u>appl</u>
Date Check Rec'd.	
Date Completed	<u>3/20/97</u>
By:	<u>fer</u>

APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 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. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-3 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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:

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

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

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

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

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

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD
LISLE, IL 60532-4351

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 SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76013-8064



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 _____

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

Helms and Associates
P.O. Box 111 Suite 333 Berkshire Plaza
405 8th Avenue NW
Aberdeen, SD 57402

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

Licensed materials will be used at address
listed in item 2 and at temporary job site
in states subject to NRC regulatory authority.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Jay C. Koch, P.E.

TELEPHONE NUMBER

605-225-1212

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. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY

3.P.

AMOUNT

ENCLOSED \$550.00

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, 38, 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 82 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

Terry D. Helms, Principal/President

SIGNATURE

T.D. Helms Pres.

DATE

3.12.97

FOR NRC USE ONLY

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

466340

**Application for Material License
Items 5 through 11**

Item 5 - Radioactive Material:

RADIONUCLIDE	SEALED SOURCE	MAX ACTIVITY/SOURCE (MILLICURIES)
A. Cs-137	Special Form Troxler Drawing #A-102112	9
B. Am-241:Be	Special Form Troxler Drawing #A-102451	44
C. Am-241:Be	Special Form Troxler Drawing #A-102700	11
D. Am-241:Be	Special Form Troxler Drawing #A-100608	100

AUTHORIZED USE:

- A. For use in TROXLER MODEL 3400 series, or 4640 series or 4545 portable measuring devices.
- B. For Use in TROXLER MODEL 3400 series, or 3216 portable measuring devices.
- C. For Use in TROXLER MODEL 4300 series portable measuring devices.
- D. For use in TROXLER MODEL 3241 series portable measuring devices.

POSSESSION LIMIT COMMITMENT

We will confine our possession of licensed material quantities such that we will not exceed the applicable limits of 10 CRF 30.35(d).

DATA ON REGISTRATION CERTIFICATES:

MANUFACTURER	REGISTRY NO.	MODEL NO.
TROXLER	NC-646-D-128-S	3241 SERIES
TROXLER	NC-646-D-130-S	3400 SERIES
TROXLER	NC-646-D-131-S	4640 SERIES
TROXLER	NC-646-D-134-S	4300 SERIES
TROXLER	NC-646-D-126-S	3216 SERIES
TROXLER	NC-646-D-132/133-S	4545 SERIES

Item 6 - Purposes for which Licensed Material will be Used:

- A. For use in Troxler Model 3400 Series, or 4640 series, or 4545 series portable measuring gauges to measure construction materials.
- B. For use in Troxler Model 3400 series or 3216 series portable gauges to measure construction materials.
- C. For use in Troxler Model 4300 series portable moisture measuring gauge.
- D. For use in Troxler Model 3241 Series portable asphalt content measuring gauge.

The Maximum depth the density source rod will be lowered is 12 inches.

Item 7 - Individual Responsible for Radiation Safety Program and Their Training Experience:

Craig Harrison will be the Radiation Safety Officer (RSO) for Helms and Associates. Craig has completed the Troxler Nuclear Gauge Safety Training Class (copy of certificate is attached). Craig has a High School diploma and has an Associate Degree in Civil Engineering from North Dakota State School of Science. The duties and responsibilities of the RSO will be those listed in Appendix C of Policy and Guidance Directive PG 2-07 (Rev. O), dated September 1994.

The company management will provide a commitment that the RSO has independent authority to stop unsafe operations and will be given time to fulfill his radiation safety duties and responsibilities. Please find enclosed a copy of the company's organizational chart with Craig's position identified.

Item 8 - Training for Individuals Working in or Frequenting Restricted Areas:

Each individual that will operate the nuclear gauge will complete the Troxler Nuclear Gauge Training course taught by Troxler Instructors; will read and understand our radiation safety procedures; and will be approved by our Radiation Safety Officer. Copies of each individuals training certificates will be maintained on file.

Annual refresher training will be accomplished by sending all gauge operators to the Troxler Nuclear Gauge Safety Training course once a year. Copies of individuals training certificates will be maintained on file to reflect the refresher requirement.

Item 9 - Facilities and Equipment:

The proposed storage facility for the nuclear gauges is shown on the attached sketch. This is a separate building from the companies main offices and is used for storage and soils laboratory work. Access to the nuclear gauges will be restricted to those personnel approved by the RSO. The gauge storage area will be secured by a locking system.

When gauges are transported to the field, they will be secured to the vehicle by a chain and lock; locked in the trunk of a car; or hidden from view in a locked van.

Gauge Security - The usage of nuclear gauges will be only by individuals authorized by the RSO. Each

gauge shall be accounted for by a usage or utilization log in the gauge storage area. All possible means shall be provided to ensure the equipment is fully secured in the transport vehicle. When not being used in the field, the authorized user shall maintain control over the gauge at all times. The gauge will never be left unattended. The gauge will be under constant physical surveillance while in the field. All unauthorized personnel shall be kept out of the gauge operating area. When not making measurements with the gauge, it shall be placed in the transport case with source rod locked in the safe position and returned to the gauge storage area as soon as possible. During transport, the gauge shall be secured so that gauge cannot be removed or tampered by unauthorized personnel.

Item 10 - Radiation Safety Program:

10.1 Personnel Monitoring Program

All gauge operators will wear personnel monitoring devices when utilizing the equipment. Personnel monitoring equipment will consist of TLD's supplied by Troxler Radiation Monitoring services on a quarterly exchange period.

Troxler Radiation Monitoring Services
Division of Troxler Electronic Labs, Inc.
PO Box 12057
Research Triangle Park, NC 27709

License Number 032-01-82-1 NC

Radiation Detection from TLD: Beta, Gamma, X-Ray and Neutron measurement.

10.2 Radiation Detection Instruments

The each job site we will have at least one survey meter capable of measuring between 0.1 microsievert per hour (0.01 millirem per hour) and 1.0 millisievert per hour (100 millirem per hour). This instrument will be used to perform surveys after an incident. Each survey instrument will be calibrated annually by the manufacturer. Before using a survey instrument, the response will be checked by the manufacturer's instructions. If the instrument does not respond properly, then we will not use the instrument until it is repaired and operable or until we obtain an operable instrument.

10.3 Leak Testing

All gauges will be leak tested at intervals not to exceed six (6) months. The leak test will be performed using the Troxler Model 3880 Leak Test Kit. The leak test will be performed using the manufacturer's instructions. When performing the leak test, personnel monitoring devices must be worn. Troxler Radiation Monitoring Services will analyze all leak tests using the 3880 kit, Troxler License Number 032-01-82-1 NC. Any analysis with the removable activity of $>0.005\mu\text{Ci}$ will cause affected gauge to be immediately removed from use. The gauge shall be sent to the manufacturer for repair or disposal. A report shall be sent to the NRC in the event of a leaking source. Leak tests shall only be taken by individuals authorized by the RSO.

10.4 Inventories

Every six (6) months, an inventory shall be taken to account for all gauges possessed under the license. Inventory records will be maintained for at least three (3) years. An example inventory slip is presented below:

Model & Type	Sources	Type	Amount	Drawing Number
3430 Surface	Cs 137	Sealed	8.0 mCi	TEL A-102112
Moisture Density	Am241:Be	Sealed	40.0 mCi	TEL A-1-2451
Gauge S.N.				
In Storage	yes - no (circle one)			
Out of Storage	yes - no (circle one)	at		
Date				

10.5 Maintenance

When performing any cleaning or maintenance on a gauge, the operator will wear a personnel monitoring device. At all times, the source rod shall be in the locked, safe, and shielded position in accordance with the manufacturer's recommendations. At no time, shall cleaning be performed with the source exposed out of the shield or the source rod removed from the gauge.

10.6 Transportation of Gauges to Field Locations

Before shipping a nuclear gauge, the gauge case shall be inspected to ensure that the case is in proper condition (unimpaired physical condition except for superficial marks) and that each device (hinges, closure, hasp, latch, etc.) is properly installed, secured and free of defects. Each case has proper labeling, and the labels are legible. The gauge case is sealed or locked. A copy of Type A Package Test results are on file for the appropriate gauge case. Current copies of IAEA Certificates of Competent Authority are on file for each type of source used in the nuclear gauge. The records of HAZMAT training for each gauge operator will be on file. A BILL OF LADING for each gauge must be in the transport vehicle, visible and immediately accessible to the driver. EMERGENCY RESPONSE INFORMATION for each gauge must be in the transport vehicle, visible and immediately accessible to the driver.

No gauge shall be shipped without a current leak test. Area surveys of gauges shall be performed with a survey meter. The Manufacturer Radiation Profiles for each gauge model shall be used for reference measurements.

We will obtain and maintain copies of DOT regulations as appropriate to Yellow Label II portable gauging devices.

10.7 Operating and Emergency Procedures

We will commit to provide Operating and Emergency Procedures to include all topics listed in Appendix H of the SRP and provide assurance that these procedures will be implemented into our licencing program.

Each gauge user will be given a copy of our Operating and Emergency Procedures. Each gauge operator will read and understand the procedures BEFORE they can operate a gauge. A copy of our Operating and Emergency Procedures will be available at each job site.

Personnel exposure shall be kept to a minimum by following the concepts of time, distance, and shielding principals for all gauge users as taught in the Troxler Nuclear Gauge Safety Training Manual related to As Low As Reasonably Attainable (ALARA) concept.

Operating Procedures:

- A. Before any operator removes a gauge from storage, for the purpose of transport, they will check to see that the source rod is in the locked and safe position. They will check to see that the gauge is structurally sound and that all hinges, clasps, and locks are in operation condition. The operator will also check to see that all case labels are legible and intact. Prior to removing the gauge from storage, the operator will ensure that the case is locked or secured.
- B. Each gauge removed from storage shall be accounted for on the utilization log. The operator shall sign, date, and note location of use on utilization log.
- C. Each gauge shall have proper shipping documentation in the transport vehicle. A properly completed Bill of Lading and Emergency Response Information Sheet shall be in the vehicle immediately accessible to the driver and visible.
- D. When gauge is in the field, the authorized user shall maintain control over the gauge at all times and shall keep unauthorized personnel out of the gauge operating area. The user at no time will leave the gauge unattended.
- E. The operator will never expose the source rod or guide it visually into the ground. The operator will never allow any contact of the source by hands, fingers, or any part of the body. After each measurement, the operator will ensure that source has been retracted into the locked and safe position.
- F. The operator shall wear the personnel monitoring device assigned to each operator whenever equipment is in use and operators shall never utilize another operator's TLD or film badge. When equipment is not in use, the personnel monitoring devices shall be stored in a radiation free area designated for each operator. The source rod shall be placed in the locked and safe position whenever measurements are not being made. The gauge will be placed in the transportation case and returned to the permanent storage area as soon as possible. Whenever gauge is returned to storage, the operator shall make annotations to the utilization log.

Emergency Procedures:

- A. In the event the gauge is lost or stolen, the operator shall immediately notify the RSO.

- B. In the event of physical damage to the gauge and the source shield is or could be compromised, the operator shall:
1. The operator will locate the gauge and immediately secure a minimum 15 foot radius around the gauge.
 2. If vehicle is involved, it will be stopped until the extent of contamination, if any, can be established.
 3. The operator shall make a visual inspection of the gauge to determine if the source housing and/or shielding has been damaged.
 4. The operator shall contact the RSO as the earliest possible time upon securing the area and controlling the situation.
RSO: Craig Harrison Wk. Phone: 225-1212 Home Phone: 225-6436
- C. The gauge will be used for its intended purpose only. By doing so, the operator will maintain any radiation exposure to As Low As Reasonably Attainable levels. The source will not be lowered into the ground more than 12 inches at any time.

10.8 Annual Audit of Radiation Safety Program

The Radiation Safety Officer and a designated staff engineer will be responsible for the yearly audit. The audit will be conducted as described in Appendix I of the Policy and Guidance Directive PG 2-07 (Rev. O), dated September 1994.

10.9 Financial Assurance and Record Keeping for Decommissioning

Based on the regulations, the quantity and physical form of the sources requires no financial assurance. Possession will be less than 100 curies of Americium-241 and less than 100,000 curies of Cesium-137.

Facility Decommissioning File:

- A. The records will include the following:
1. Records of any leakage involving the spread of contamination, where the contamination remains after cleanup procedures have been exhausted, and/or if the contamination is inaccessible.
 2. Drawings or sketches of areas in facility where radioactive materials are used and/or stored. These drawings will indicate locations of any non-removable contamination.
 3. Records of the cost estimate for the decommissioning of the facility.
- B. If there are no events involving spills, leaking sources, or spread of contamination, then records will not be necessary and will not be maintained for these purposes.

Item 11 - Waste Management:

The disposition of the gauge will be by transfer to either another licensee specifically licensed to possess the radioactive material or to a licensed disposal facility. It is our intent to "recycle" the sealed sources used in our gauges back to the manufacturer. In this manner, no waste will be generated for disposal.

Terry D. Helms, P.E., P.L.S.
Principal Engineer

Bob J. Babcock, P.E.
Associate Engineer

Randy D. Bacon, P.L.S.
Staff Land Surveyor

Jay C. Koch, P.E.
Staff Engineer

John G. Ladson, E.I.T.
Staff Engineer

Craig D. Harrison
Computer Technician Supervisor
Radiation Safety Officer

Bob Kieso
Technician

Alex Tran
Technician

Todd Stanley
Technician

Corey T. Helms
Technician

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

CRAIG HARRISON

of

HELMS ASSOCIATION

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. Leak testing procedures.
3. Mathematics and calculations basic to the use and measurement of radioactivity.
4. Biological effects of radiation.
5. Radioactivity measurement standardization and monitoring techniques and instruments.
6. Accident and incident procedures.
7. Procedures for nuclear gauge storage and transportation.
8. General safety precautions.

Gauge Operation

1. Instrument theory
2. Operating procedures
3. Maintenance
4. Field application
5. Gauge calibration

BOB WILSON
INSTRUCTOR

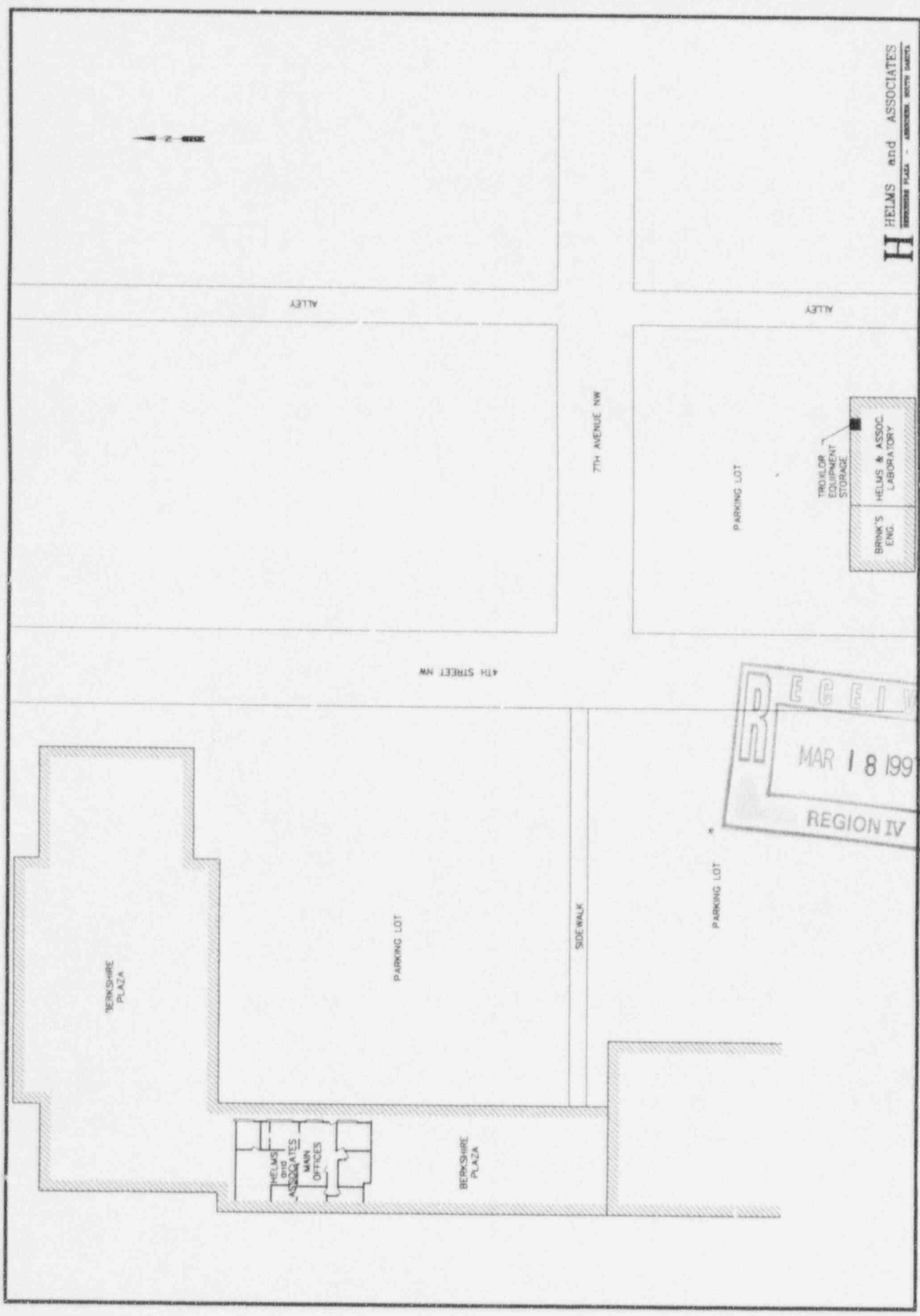
Bob Wilson

02-19-97

DATE

WILLIAM F. TROXLER
PRESIDENT

No 39324



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