

**ENGINEERING • SURVEYING • PLANNING** 

RECEIVED

October 19, 2009

OCT 2 3 2009

**DNMS** 

P.O. Box 338 1508 Stampede Avenue Cody, WY 82414 PH: 307.587.3411

Re: License # 49-29307-01 Amendment

U.S. Nuclear Regulatory Commission, Region IV

**Nuclear Materials Licensing Section** 

611 Ryan Plaza Drive, Suite 400

Arlington, TX 76011-8604

To Whom It May Concern:

Please consider the following amendment to license # 49-29307-01. The amendment is to remove Ra-226:Be from the original license. Graham, Dietz, and Associates, die A Engine and Languages with a Ra-226:Be The Troxler 2401 Nuclear Density Gauges were received by Troxler Laboratories under North Carolina Radioactive Materials License #032-0182-1 on October 16, 2008. Troxler Laboratories was give authority to dispose of the these gauges on October 16, 2008.

Thank you, **GDA Engineers** 

Darren Cannon, RSO

Application for Materials License **Encloses:** 

Safety Inspection Report and Compliance Inspection

Nuclear Density Gauge Disposal Letter

Troxler Acknowledgment of Receipt of Model 2401 Gauges

FAX: 307.527.5182

www.gdaengineers.com

OCT 2 5 2009

## DNMS

APPENDIX A

NRC FORM 313 U. S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB: NO. 3150-0120 EXPIRES:08/31/2002
(8-1999) 10 CFR 30, 32, 33 34, 35, 36, 39 and 40	Estimated burden per response to comply with this mandatory information collection request: 7.4 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 Management Branch (T-8 E6), U.S. Nuclear
APPLICATION FOR MATERIAL LICENSE	Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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. It a means used to impose an information collection does not display a currently valid OMB control number, NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.
INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIL SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE	
APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:	IF YOU ARE LOCATED IN:
DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001	ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO: MATERIALS LICENSING SECTION
ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:	U.S. NUCLEAR REGULATORY COMMISSION, REGION (II) 801 WARRENVILLE RD
IF YOU ARE LOCATED IN:	LISLE, IL 60532-4351
CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:	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:
LICENSING ASSISTANT SECTION NUCLEAR MATERIALS SAFETY BRANCH U.S. NUCLEAR REGULATORY COMMISSION. REGION I 475 ALLENDALE ROAD KING OF PRUSSIA, PA 19406-1415	NUCLEAR MATERIALS LICENSING SECTION U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TX 76011-8084
ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:	
SAM NUNN ATLANTA FEDERAL CENTER  U. S. NUCLEAR REGULATORY COMMISSION, REGION II 61 FORSYTH STREET, S.W., SUITE 23T85 ATLANTA, GEORGIA 30303-8931	
PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S., NUCLEAR I MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDICTIC	
1 THIS IS AN APPLICATION FOR (Check appropriate item)	2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)
A. NEW LICENSE	Graham, Dietz, and Associates
B AMENDMENT TO LICENSE NUMBER 49-29307-01	DA ZOUZZE
C RENEWAL OF LICENSE NUMBER	Oba GDA Egineers Po. Box 338 Cody, UY 82414
3 ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED	4. NAME OF PERSON TO BE CONTACTED ABOUT THIS
1508 Stampede Avenue	APPLICATION
Cody, WY 82414	Darren Cannon
Coay, W1 02-117	TELEPHONE NUMBER 307-587-34//
SUBMITITIEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER, THE TYPE AND SCOPE OF INFORMATION RADIOACTIVE MATERIAL	IN TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.
<ol> <li>RADIOACTIVE MATERIAL         Element and mass number; b chemical and/or physical form; and c maximum amount which will be possessed at any one time.     </li> </ol>	6 PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED
<ol> <li>INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.</li> </ol>	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 AMOUNT FNC OSED 5
CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT UPON THE APPLICANT.	Literation 4

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN

## ITEMS 5 AND 6: MATERIALS TO BE POSSESSED AND PROPOSED USES

Yes	No	Radioisotope	Manufacturer or Distributor Model No.	Quantity	Use As Listed on SSD Certificate	Specify Other Uses Not Listed on SSD Certificate
<u>×</u>		Cesium-137	Sealed source manufacturer or distributor and model number:  Device manufacturer or distributor and model number:  Itaxler 3490 Series	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes of Specific description of the gauge use:  To measure Construction Materials	☐ Not applicable ☐ Uses are: ☐ (Submit safety analysis supporting safe use)
		Americium- 241	Sealed source manufacturer or distributor and model number:  Device manufacturer or distributor and model number:  Iroxler 3400 Series	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes S Specific description of the gauge use: To Measure Construction Materials	□ Not applicable □ Uses are:  (Submit safety analysis supporting safe use)

### APPENDIX B

X	Radioisotope	Manufacturer or Distributor Model No.	Quantity	Use As Listed on SSD Certificate	Specify Other Uses Not Listed on SSD Certificate
×	Californium- 252	Sealed source manufacturer or distributor and model number:  ———————————————————————————————————	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes  Specific description of the gauge use:	□ Not applicable □ Uses are: □ (Submit safety analysis supporting safe use)
	Other Isotope (Specify):	Sealed source manufacturer or distributor and model number:  Device manufacturer or distributor and model number:	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes  Specific description of the gauge use:	☐ Not applicable ☐ Uses are: ☐(Submit safety analysis supporting safe use)

# ITEMS 7 THROUGH 11: TRAINING AND EXPERIENCE, FACILITIES AND EQUIPMENT, RADIATION SAFETY PROGRAM, AND WASTE DISPOSAL

	Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
7.	INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE - RADIATION SAFETY OFFICER	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, dated November 2001.	3	and the second s
8.	TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS	Before using licensed materials, authorized users will have successfully completed one of the training course described in Criteria in the section entitled "Training for Individuals Working In or Frequenting Restricted Areas" in NUREG-1556, Vol. 1, Rev 1, dated November 2001.	<b>T</b>	
9.	FACILITIES AND EQUIPMENT	No information needs to be submitted in response to this item; key issues are addressed under "Radiation Safety Program – Public Dose" and "Radiation Safety Program – Operating and Emergency Procedures."	Separate Item 9 Response Need Not Be Submitted With Application	
10.	RADIATION SAFETY PROGRAM – AUDIT PROGRAM	The applicant is <i>not</i> required to, and should not, submit its audit program to NRC for review during the licensing phase.	Need Not Be Submitted With Application	
10.	RADIATION SAFETY PROGRAM - TERMINATION OF ACTIVITIES	The applicant is <i>not</i> required to submit a response to the termination of activities section during the initial application.  However, when the license expires when the licensee ceases operation, NRC Form 314 must be submitted.	Need Not Be Submitted With Application	

	Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
10.	RADIATION SAFETY PROGRAM – 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.	RADIATION SAFETY PROGRAM – OCCUPATIONAL DOSIMETRY	Either we will maintain, for inspection by NRC, documentation demonstrating that unmonitored individuals are not likely to receive a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20, or we will provide dosimetry processed and evaluated by an NVLAP-approved processor that is exchanged at a frequency recommended by the processor.		
10.	RADIATION SAFETY PROGRAM – PUBLIC DOSE	The applicant is <i>not</i> required to submit a response to the public dose section during the licensing phase. This matter will be examined during an inspection.		
10.	RADIATION SAFETY PROGRAM – OPERATING AND EMERGENCY PROCEDURES	We will implement and maintain the operating and emergency procedures in Appendix H of NUREG-1556, Vol. 1, Rev. 1, dated November 2001, and provide copies of these procedures to all gauge users and at each job site.		B
		OR		
		Operating and emergency procedures will be developed, implemented, and maintained and will meet the criteria in the section entitled "Radiation Safety Program – Operating and Emergency Procedures" in NUREG-1556, Vol. 1, Rev. 1, dated November 2001.		
10.	RADIATION SAFETY PROGRAM – LEAK TEST	Leak tests will be performed at intervals approved by NRC or an Agreement Sate and specified in the Sealed Source and Device Registration Sheet. Leak tests will be performed by an organization authorized by	<b>9</b>	The information in Appendix J

Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
TO. RADIATION SAFETY PROGRAM— MAINTENANCE	Routine Cleaning and Lubrication  We will implement and maintain procedures for routine maintenance of our gauges according to each manufacturer's recommendations and instructions.  Non-Routine Maintenance  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 the removal of the source or source rod from the gauge.		The information listed in Appendix G supporting a request to perform non-routine maintenance in-house is
10.RADIATION SAFETY PROGRAM – TRANSPORTATION	The applicant is <i>not</i> required to submit its response to transportation during the licensing process. However, this issue will be reviewed during inspection.		attached. of Be Submitted oplication
11. WASTE MANAGEMENT – GAUGE DISPOSAL AND TRANSFER	The applicant is <i>not</i> required to submit a response to waste management during the licensing process. However, the licensee should develop, implement, and maintain gauge transfer and disposal procedures in its radiation protection program.		ot Be Submitted oplication

## 10. RADIATION SAFETY PROGRAM – OPERATING, EMERGENCY, AND SECURITY PROCEDURES

We will implement and maintain the operating, emergency and security procedures in Appendix H of NUREG – 1556, Vol. 1, Rev. 1, dated November 2001 and provide copies of these procedures to all gauge users and at each job site.

NRC FORM 591M PART 1 (4-2008)		U.:	S. NUCLEAR REGULATORY COMMISSION	
10 CFR 2.201	PECTION REPORT	AND COMPLIANCE IN	SPECTION	
LICENSEE/LOCATION INSPECTED:     Graham, Dietz, & Associates     Dba GDA Engineers     1508 Stampede Avenue, Cody, Wyoming		2. NRC/REGIONAL OFFICE U.S. Nuclear Regula Region IV, 612 East Arlington, Texas 76	atory Commission Lamar Blvd, Suite 400	
REPORT NO: 2009-001				
3. DOCKET NUMBER 030-37815	4. LICENSE NUMBER 49-29307-01		5. DATE OF INSPECTION October 8, 2009	
LICENSEE: The inspection was an examination of the activitie Regulatory Commission (NRC) rules and regulati procedures and representative records, interview	ons and the conditions of swith personnel, and ob	f your license. The inspection servations by the inspector. The inspector of the inspection	consisted of selective examinations of	
1. Based on the inspection findings, no	violations were identified	i.		
2. Previous violation(s) closed.				
3. The violations(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy to exercise discretion, were satisfied.				
Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):				
4. During this inspection certain of your cited. This form is a NOTICE OF VIC	activities, as described l DLATION, which may be	pelow and/or attached, were in subject to posting in accordan	n violation of NRC requirements and are being ce with 10 CFR 19.11.	
Licensee's	Statement of Corre	ective Actions for Item	4, above.	

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

Title Printed Name Signature Date



October 16, 2008

Troxler Electronics Lab 3008 Cornwallis Road Research Triangle Park, NC 27709

SUBJECT: Nuclear Density Gauge Disposal

I authorize Troxler Electronics Lab to dispose of two (2) Troxler model 2401 nuclear density gauges, serial numbers 3266 and 2487.

Thank you,

Darren Cannon, RSO GDA Engineers



Troxler Electronic Laboratories, Inc. - Troxler International, Ltd. 3008 Comwallis Road, P.O. Box 12057, Research Triangle Park, NC 27709 - USA Telephone: 919/549-8661 Telefax: 919/549/0761

October 16, 2008

GDA Engineers Attn: Darren Cannon P. O. Box 338 Cody WY 82414

Attn: Darren Cannon

This is to acknowledge receipt of the below-referenced nuclear gauge(s) under North Carolina Radioactive Materials License #032-0182-1. You should retain this letter in your files to document transfer of the gauge.

Date Received: 10-15-08

 Repair Order
 Model
 Serial Number

 4917
 2401
 2487

 4818
 2401
 3266

Regards, Emily Davis Service/Repair Department Troxler Electronics



#### Troxler Electronic Laboratories, Inc.

3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (866) 391-2759 License: NC 032-0182-1

Cust ID: 11015

Darren Cannon **BDA Engineers PO BOX 338** 1503 Stampede Ave. Cody, WY 82414

#### **LEAK TEST CERTIFICATE**

**DEVICE:** 

Model: 2401

Serial No: 2487

**SEALED SOURCES:** 

Serial No. Measure Date

16-4245

06/03/82

Nuclide RA-226:BE

GBa 0.074 mCi 2

**LEAK TEST ANALYSIS:** 

Sample collected on:

10/15/2008

Sample analyzed on:

10/16/2008

at 1:22:00 PM

Analyzed by:

Douglas R. Kjos

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.22E+01	2.00E+01
Background measurement (cpm)	0	26
Sample measurement (cpm)	0	28
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.3E-01	1.3E+00



#### Troxler Electronic Laboratories, Inc.

3008 Cornwallis Rd., P.O. Box 12057 Research Triangle Park, NC 27709 Tel: (877) 876-9537 Fax: (866) 391-2759

License: NC 032-0182-1

Cust ID: 11015

Darren Cannon **BDA Engineers** PO BOX 338 1503 Stampede Ave. Cody, WY 82414

#### **LEAK TEST CERTIFICATE**

**DEVICE:** 

Model: 2401

Serial No: 3266

**SEALED SOURCES:** 

Serial No. Measure Date

Nuclide

GBq mCi

05/15/75 16-4113

RA-226:BE

2

**LEAK TEST ANALYSIS:** 

Sample collected on:

10/14/2008

Sample analyzed on:

10/16/2008

at 1:21:00 PM

0.074

Analyzed by:

Douglas R. Kjos

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.22E+01	2.00E+01
Background measurement (cpm)	0	26
Sample measurement (cpm)	0	18
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	4.3E-01	1.3E+00

ACCEPTANCE REVIEW MEMO (ARM)					
Licensee:	DBA GDA Engineers	License: 49-29307-01			
Docket:	030-37815	Mail Control: 472471			
Type of Actio	on: Amend	Date of Requested Action: 10-19-09			
Reviewer Assigned:	Roberto Torres	ARM reviewer(s): Torres			
Response	Deficiencies N	oted During Acceptance Review			
Received 11/20/09	[ ] Open ended possession limits. Submit inventory. Limit possession. [X] 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.				
Reviewer's Ir	nitials: RIT	Date: 11/20/09			
☐ Yes ☐ No Request for unrestricted release Group 2 or >. Consult with Bravo Branch.					
☐Yes ☐No	Termination request < 90 d	ays from date of expiration			
☐Yes ☐No	Expedite (medical emergen license, RAM in possession	ncy, no RSO, location of use/storage not on on not on license, other)			
☐Yes ☐No	TAR needed to complete a	ction.			
Branch Chie	ef'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 RuleExact 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 facilitiesDetailed design drawings and/or performance informationEmergency planning and/or fire protection systems					

Manufacturer's name and model number of sealed sources & devices Site drawings with exact location of PAM description of facility

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

\_RAM quantities and inventory

11-24-09

	is to acknowledge the receipt of your letter $O = 19 = 0.9^\circ$ , and to inform you that the		DATE		
	ch includes an administrative review, has be				
X	There were no administrative omissions. Your application will be assigned to a technical reviewer. Please note that the technical review may identify other omissions or require additional information.				
	Please provide to this office within 30 days	of your receipt of this card			
The	action you requested is normally processed	with <u>in <i>90</i></u> days.			
	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 <b>Mail Control Number</b> 472471 When calling to inquire about this action, please refer to this mail control number. You may call me at 817-860-8103.					
		Sincerely,			
		Colleen Mu	rnahan		
NRC (10-2	FORM 532 (RIV) 008)	Licensing Assistant			

	WEEN:	: (FOR LFMS USE) : INFORMATION FROM LTS :
	ense Fee Management Branch, ARM and ional Licensing Sections	Program Code: 03121 Status Code: 0 Fee Category: 3P Exp. Date: 20181031 Fee Comments: Decom Fin Assur Reqd: N
LICE	ENSE FEE TRANSMITTAL	
Α.	REGION	
1.	APPLICATION ATTACHED Applicant/Licensee: GRAHAM, DIETZ 8 Received Date: 20091023 Docket No: 3037815 Control No.: 472471 License No.: 49-29307-01 Action Type: Amendment	A ASSOCIATES
2.	FEE ATTACHED Amount: Check No.:	
3. (	COMMENTS Signed <u>(</u> Date <u>(</u>	Tollien Mursahen
B. I	LICENSE FEE MANAGEMENT BRANCH (Check	when milestone 03 is entered $/\/)$
1.	Fee Category and Amount:	
2.	Correct Fee Paid. Application may Renewal License	pe processed for:
3.	OTHER	<u></u>
	Signed Date	



PO BOX 338 1508 Stampede Ave. Cody, WY 82414 GDA

Phone (307)587-3411 Fax (307) 527-5182 www.gdaengineers.com

Nucleur Materials Licensing Section

10: U.S. Nuclear Regulatory Commission

Region IV

612 Ryan Plaza Dr. Suite 400

Arlington, TX 76011-8604