



June 14, 2010

USNRC, Region III Office  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532  
Attn: Licensing Branch

RE: Control No. 318711  
Materials License Renewal  
License No. 24-32231-01

Gentlemen:

We previously submitted a letter dated December 15, 2009 requesting the renewal of our Material License (License No. 24-32231-01), which expired on January 31, 2010, for an additional 10 years.


Please find enclosed a completed Application for Material License along with "Appendix B" as requested.

Note that we currently have 16 Humboldt Scientific, Inc. Model 5001 portable nuclear gages and may wish to increase the number of gages to 25 in the coming years. Each gage contains a Cesium 137 (10 mCi) source and an Americium 241 (40 mCi) source.

If you have any questions concerning this letter or need additional information, please call.

Respectively submitted,

**Jacobi Geotechnical Engineering, Inc.**

  
James N. Pyatt, P.E.  
RSO, Principal

## APPENDIX A

<b>NRC FORM 313</b> (3-1995) 10 CFR 30.32, 33 34, 35, 36, 39 and 40		<b>U. S. NUCLEAR REGULATORY COMMISSION</b>		<b>APPROVED BY OMB: NO. 3150-0123</b>		<b>EXPIRES: 06/31/2002</b>	
<b>APPLICATION FOR MATERIAL LICENSE</b>				Estimated burden per response to comply with this mandatory information collection request 7.4 hours. Submission 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-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or by internet e-mail to <a href="mailto:b61@nrc.gov">b61@nrc.gov</a> , and to the Desk Officer, Office of Information and Regulatory Affairs, NEGB-10202 (3150-0123), 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, NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.			
<b>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.</b>							
<b>APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:</b> DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001  <b>ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:</b>  <b>IF YOU ARE LOCATED IN:</b>  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:  SAM MUMFATTLAND FEDERAL CENTER U.S. NUCLEAR REGULATORY COMMISSION, REGION I 61 FORSYTH STREET, S.W., SUITE 23755 ATLANTA, GEORGIA 30303-8931				<b>IF YOU ARE LOCATED IN:</b>  ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:  MATERIALS LICENSING SECTION U.S. NUCLEAR REGULATORY COMMISSION, REGION II 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 76011-5054			
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) <input type="checkbox"/> A. NEW LICENSE <input type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER <input checked="" type="checkbox"/> C. RENEWAL OF LICENSE NUMBER <u>24-32231-01</u>				2. NAME AND MAILING ADDRESS OF APPLICANT (include Zip code) <u>Jacobi Geotechnical Engineering, Inc.</u> <u>798 Hoff Rd</u> <u>0' Fallon, MO 63366</u>			
3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED <u>used &amp; stored at 798 Hoff Rd - 0' Fallon, MO</u> <u>&amp; used at temporary jobsites in U.S.</u> <u>where NRC has jurisdiction</u>				4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION <u>James N. Pyatt</u> TELEPHONE NUMBER <u>636-978-7112</u>			
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 <u>AMOUNT ENCLOSED \$ NONE</u>			
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: 15 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 82 STAT. 748 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 - TYPE, PRINTED NAME AND TITLE <u>James N. Pyatt, Vice President</u>				SIGNATURE <u>James N. Pyatt</u>		DATE <u>6-14-10</u>	
<b>FOR NRC USE ONLY</b>							
TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS		
			\$				
APPROVED BY				DATE			

## APPENDIX B

## 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
✓		Cesium-137	Sealed source manufacturer or distributor and model number:  Device manufacturer or distributor and model number:  Humboldt Scientific, Inc. Model 5001	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes <input checked="" type="checkbox"/> Specific description of the gauge use: <u>measuring physical properties of materials</u>	<input type="checkbox"/> Not applicable  <input type="checkbox"/> 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:  Humboldt Scientific, Inc. Model 5001	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes <input checked="" type="checkbox"/> Specific description of the gauge use: <u>measuring physical properties of materials</u>	<input type="checkbox"/> Not applicable  <input type="checkbox"/> Uses are:  (Submit safety analysis supporting safe use)

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Yes	No	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: _____ 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 <input type="checkbox"/> Specific description of the gauge use: _____ _____ _____ _____ _____	<input type="checkbox"/> Not applicable _____ <input type="checkbox"/> 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 <input type="checkbox"/> Specific description of the gauge use: _____ _____	<input type="checkbox"/> Not applicable _____ <input type="checkbox"/> Uses are: _____ (Submit safety analysis supporting safe use)
Financial Assurance Required and Evidence of Financial Assurance Provided						

## APPENDIX B

# 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
<b>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE – RADIATION SAFETY OFFICER</b>  Name: <u>James N. Pyatt</u>	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS</b>	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>9. FACILITIES AND EQUIPMENT</b>	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."	<b>Separate Item 9 Response</b>  <b>Need Not Be Submitted With Application</b>	
<b>10. RADIATION SAFETY PROGRAM – AUDIT PROGRAM</b>	The applicant is <i>not</i> required to, and should not, submit its audit program to NRC for review during the licensing phase.	<b>Need Not Be Submitted With Application</b>	
<b>10. RADIATION SAFETY PROGRAM – TERMINATION OF ACTIVITIES</b>	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.	<b>Need Not Be Submitted With Application</b>	
<b>10. RADIATION SAFETY PROGRAM – SURVEY INSTRUMENTS</b>	We will either 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, dated November 2001.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	Need Not Be Submitted With Application	
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<p style="text-align: center;"><b>OR</b></p> <p>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.</p>	<input type="checkbox"/>	
10. RADIATION SAFETY PROGRAM – LEAK TEST	Leak tests will be performed at intervals approved by NRC or an Agreement State and specified in the Sealed Source and Device Registration Sheet. Leak tests will be performed by an organization authorized by NRC or an Agreement State to provide leak testing services for other licensees or using a leak test kit supplied by an organization authorized by NRC or an Agreement State to provide leak test kits to other licensees and according to the kit supplier's instructions.	<input checked="" type="checkbox"/>	<input type="checkbox"/> The information in Appendix J supporting a request to perform leak testing and sample analysis is attached.



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Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
10. RADIATION SAFETY PROGRAM – MAINTENANCE	<i>Routine Cleaning and Lubrication</i> We will implement and maintain procedures for routine maintenance of our gauges according to each manufacturer's recommendations and instructions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<i>Non-Routine Maintenance</i> 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/> The information listed in Appendix G supporting a request to perform non-routine maintenance in-house is attached.
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.	Need Not Be Submitted With Application	
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.	Need Not Be Submitted With Application	



## FAX SHEET

Date: June 14, 2010

TO: Mr. Michael G. Herr	
COMPANY: USNRC	Fax 630-515-1078
# PAGES: 8 Including the cover sheet	
SUBJECT: Control No. 318711 - License No. 24-32231-01	

Mr. Herr -

Attached is the information you requested. Call me immediately at 636-978-7112 if you need anything additional.

Thanks for your time -

  
James N. Pyatt, P.E.