



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, IL 60532-4352

December 23, 2020

Aaron Benson, P.E.  
Geotechnical Engineer and RSO  
Great River Engineering  
2826 S. Ingram Mill Rd.  
Springfield, MO 65804

Dear Mr. Benson:

This letter is in reference to your application dated November 24, 2020, requesting issuance of a U.S. Nuclear Regulatory Commission (NRC) Materials License.

The NRC's guidance document for your proposed type of license, which I refer to below as "the guidance", is NUREG-1556, Volume 1, Rev. 2, dated June 2016, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Portable Gauge Licenses." This guidance is available on the NRC Web site at:

<https://www.nrc.gov/docs/ML1617/ML16175A375.pdf>

Upon review of your application, I identified the following areas requiring additional or clarifying information:

1. Your company's legal name was identified in your license application as Great River Engineering. A check with the Missouri Secretary of State's Business Services Division revealed an active registration for a legal entity identified as Great River Associates, Inc., which maintains a fictitious name registration for Great River Engineering. Please confirm that your company's legal name is Great River Associates, Inc., d/b/a Great River Engineering.
2. Because a radioactive materials license is a legal document, license applications, amendment requests and all other license-related correspondence must be signed and dated by a person authorized to make legally binding statements for the licensee (i.e., a certifying official). Your title is not recognized as that of a certifying official. Therefore, revise and resubmit the application bearing the signature of Guy M Eakins, President, or that of another certifying official. For additional information, you may refer to Section 8.13, "Item 13: Certification," of the guidance.
3. Section 8.5, "Item 5: Radioactive Material," states that applicants must provide the radionuclide and nominal activity for each requested sealed source, the manufacturer's or distributor's name, and model number for each device, and the number of gauges for each model.

Your application identifies that you are requesting authorization for the Humboldt Scientific, Inc., Model 5001 portable moisture and density gauging devices, but does not specify the total number of these gauging devices that you are requesting authorization to possess and use.

Please respond by listing the total number of portable gauging devices requested.

4. Section 8.7, "Item 7: Individual(s) Responsible for Radiation Safety Program and Their Training and Experience," of the guidance describes the typical duties and responsibilities of Radiation Safety Officers (RSOs). Normally only one RSO is appointed for a byproduct materials license.

Your application identifies both you and Adrian Brantley as individuals responsible for the Radiation Safety Program.

Please clarify if Mr. Brantley is being appointed to a specific capacity as a "Site RSO" or "Alternate RSO." If applicable, please so state and stipulate that Mr. Brantley will only serve as RSO in your physical absence.

5. Title 10 Code of Federal Regulations (10 CFR) §30.33(a)(3) and Section 8.7.1, of the guidance require that RSOs must have adequate training and experience. Adequate training and experience includes, but is not necessarily limited to, completion of a portable gauge manufacturer's course for users and RSOs (or an equivalent course meeting Appendix C," Criteria for Acceptable Training Courses for Portable Gauge Users" of the guidance), with hands-on experience with portable gauges.

Your application only included training certificates for yourself and Mr. Brantley. None of the "Criteria" in Appendix C of the guidance are satisfied in your application.

Please submit detailed documentation of the training and experience for yourself and Mr. Brantley that demonstrates the "Criteria" in Appendix C are explicitly satisfied. All elements in the guidance criteria must be clearly met, including course content, course examination, and instructor training and experience.

6. As the designated RSO, you will be responsible for the oversight of licensed operations on a day-to-day basis. You must be provided with the organizational authority and management prerogative to enforce appropriate radiation protection rules, standards, and practices. To formally document the organizational authority of your office, submit a current Delegation of Authority signed by a management representative. Please note that an example Delegation of Authority is available in Appendix D, "Typical Duties and Responsibilities of the Radiation Safety Officer," of the guidance.

7. Section 8.8.1, "Authorized Users," of the guidance, states that individual gauge users must have adequate training and experience in the use of portable gauging devices. Acceptable training and experience may include either:

- the completion of a portable gauge manufacturer's course for users and hands-on training in the use of portable gauges; or
- an equivalent course that meets the criteria in Appendix C of the guidance.

Your application identifies that authorized users will have successfully completed one of the training courses described in Criteria in the section entitled "Training for Individual(s) Working In or Frequenting Restricted Areas" in NUREG-1556, Vol. 1, Rev. 1, "Consolidated Guidance about Material Licenses: Program-Specific Guidance about Portable Gauge Licenses," dated November 2001". Your response is not acceptable because it does not refer to the current revision of the guidance.

The "Response from Applicant," section of the guidance, specifies that either of the following responses may be provided:

- the statement, “Before using licensed materials, authorized users will have successfully completed one of the training courses described under “Criteria” in the section titled “Training for Individuals Working in or Frequenting Restricted Areas” in NUREG–1556, Volume 1, Revision 2, ‘Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Portable Gauge Licenses.’; or
- provide a description of the training for proposed authorized users.

Please submit an acceptable response. For additional information, please refer to Section 8.8, “Item 8: Training for Individuals Working In or Frequenting Restricted Areas,” and Appendix C, “Criteria for Acceptable Training Courses for Portable Gauge Users,” of the guidance.

8. Section 8.10.7, “Leak Tests,” indicates that the NRC requires testing to determine whether there is any radioactive leakage from the source in the portable gauge. Manufacturers, consultants, and other organizations may be authorized by the NRC or an Agreement State to either perform the entire leak test process for other licensees or provide leak test kits to licensees. In the latter case, the licensee is expected to take the leak test sample according to the gauge manufacturer’s and the kit supplier’s instructions and return it to the kit supplier for analysis and reporting results. Leak test samples should be collected at the most accessible area where contamination would accumulate if the sealed source were leaking.

While your application refers to the collection of leak test samples in accordance with the leak test kit supplier’s instructions, it is not clear if you are also requesting authorization to collect leak test samples or to have leak test sample collection performed only by an organization licensed by the NRC or an Agreement State to provide leak test kits and/or sample analysis services.

The “Response from Applicant,” section of the guidance, specifies that either of the following responses may be provided:

- the statement: “Leak tests will be performed at intervals approved by the NRC or an Agreement State and specified in the Sealed Source and Device registration certificate. Leak tests will be performed by an organization licensed by the NRC or an Agreement State to provide leak testing services to other licensees; or by using a leak test sample collection kit supplied by an organization licensed by the NRC or an Agreement State to provide leak test kits and/or sample analysis services to other licensees and according to the kit supplier’s instructions. Records of leak test results will be maintained.”; or
- the statement: “We will implement the model leak test program published in Appendix I of NUREG–1556, Volume 1, Revision 2, ‘Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Portable Gauge Licenses.’ Records of leak tests will be maintained.”; or
- a description of alternative equipment and/or procedures for determining whether there is any radioactive leakage from sources contained in gauges and the statement: “Records of leak tests will be maintained.”

Please submit an acceptable response. For additional information, please refer to Section 8.10.7, “Leak Tests,” and Appendix I, “Model Leak Test Program,” of the guidance.

9. Section 8.10.8, "Maintenance," of the guidance, describes maintenance options for portable gauging devices, including routine maintenance and non-routine maintenance.

Your application does not commit to performing routine maintenance in accordance with the manufacturer's *written* recommendations and instructions.

Please review Section 8.10.8 of the guidance and provide complete commitments for maintenance of the gauges. You may also submit alternative procedures for the performance of routine maintenance.

To continue the review of your request, please provide a written response to this letter by January 22, 2021. Your response must be dated and signed by a licensee's representative and please reference Mail Control Number 623792 in the response. To expedite the licensing process, you may fax your response to (630) 515-1078. If you have any questions or require clarification on any of the information stated above, you may contact me at (630) 829-9737 or [Jason.Kelly@nrc.gov](mailto:Jason.Kelly@nrc.gov).

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390 of the U.S. NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

Jason M. Kelly, MPH  
Health Physicist  
Materials Licensing Branch

Docket No. 030-39256  
Control No. 623792