



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

December 22, 2020

Roger Mawby  
President  
Otwell Mawby Geotechnical, P.C.  
309 E. Front St.  
Traverse City, MI 49684

Dear Mr. Mawby:

This letter is in reference to your application dated August 3, 2020, requesting the renewal of U.S. Nuclear Regulatory Commission (NRC) Materials License No. 21-32235-01.

The NRC's guidance document for your 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 application must include all supporting documentation including: Facility Diagram / Description and Radiation Protection Program.

Your application either did not include or did not adequately address all required items. Therefore, you may revise and resubmit your application using Appendix B, "Suggested Format for Providing Information Requested in Items 5 through 11, of the U.S. NRC Nuclear Regulatory Commission Form 313," from the guidance.

Additional items in this letter address the specific areas in which additional or clarifying information is requested. Further guidance regarding completion of the license application may be found in Section 8, "Contents of an Application," of the guidance.

2. Section 8.3 of the guidance and Item 3 on the NRC Form 313 require that you specify the addresses where licensed materials will be used or possessed. For portable gauge applicants, it is common for temporary job sites (i.e., locations where work is conducted for limited periods of time) to be included in the request.

While Item 3 of your application does identify your intent to use portable gauging devices at temporary job sites, I noted that your request is limited to temporary job sites in Michigan. Your statement is more restrictive than the licensed authorization in current license permits. Please note that you may request to retain the authorization to use portable gauging devices anywhere in the United States where the U.S. NRC maintains jurisdiction for regulating the use of licensed material.

To retain authorization to use portable gauging devices at temporary job sites where the U.S. NRC maintains jurisdiction, you may resubmit the application with the address stated as, "temporary jobsites anywhere in the U.S. where the NRC maintains jurisdiction." As this item is only advisory, no specific response or action is needed unless revisions to your application are made to address it.

3. Your application does not identify the manufacturer's name and model number of the sealed sources in the portable gauging devices that you seek continuing authorization to possess and use. Please specify the manufacturer's name and model number for each of the requested sealed sources. This information may be obtained from the manufacturer/distributor for each of the requested portable gauging devices.
4. Your application identifies that you intend to provide training to your staff through an In-House Training Program. To ensure compliance with the applicable regulatory requirements, your training program should address the following three separate, but overlapping, training requirements:
  - Instructions to Workers/Radiation Awareness training required by Title 10 Code of Federal Regulations (10 CFR) §19.12;
  - Authorized User training required by 10 CFR §30.33; and
  - HAZMAT Employee training required by 49 CFR Part 172, Subpart H.

Include a detailed description of your In-House Training Program. The description should include:

- A. Names and qualifications of instructors, including their training and experience with nuclear gauges and their instruction experience;
- B. The duration of training for each of the topics covered in the class;
- C. The method of testing the knowledge of students, such as a written and practical examination, and whether the exams are open or closed book;
- D. If an exam is used, the passing score, method of retesting students who do not pass, and an example of the test with the correct answers indicated; and
- E. A description of the subjects covered in the class, which must include as minimum those described in the Appendix C, "Criteria for Acceptable Training Courses for Portable Gauge Users," of the guidance.

For additional information, please refer to Section 8.8.1, "Authorized Users," of the guidance.

5. Section 8.9, Item 9, "Facilities and Equipment," of the guidance describes the regulations and criteria for facilities and equipment.

The "Response from Applicant" in this section states:

"Provide a facility diagram for each permanent portable gauge storage location. Include on the diagram the use of adjacent areas (including above and below), and information relevant to public dose and security as discussed in Sections 8.10.5, "Public Dose," and 8.10.6, "Operating, Emergency, and Security Procedures," respectively, in NUREG-1556, Vol. 1, Rev. 2, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Portable Gauge Licenses."

Your application failed to include a facility diagram for each permanent portable gauge storage location.

Please submit a facility diagram for each of your permanent portable gauge storage locations. Include on the diagram the functional use of all adjacent areas (including above and below) and information relevant to public dose and security.

Please do not submit blueprints or copies of blueprints. Simple, hand – drawn diagrams are best. Please include the direction of north and facility dimensions (or scale).

Please be reminded that Figure 8-4, “Storing Gauges,” in Section 8.10.5 of the guidance specifies that gauges should be stored away from occupied areas. Further, Title 10 Code of Federal Regulations (10 CFR) §30.34(i) requires that portable gauges must be secured against unauthorized removal.

6. Section 8.10.2, “Radiation Monitoring Instruments,” of the guidance specifies that licensees should possess, or have access to, radiation monitoring instruments, for the protection of public health and to minimize danger to life or property, especially for incidents involving gauging devices at construction sites.

Your application neither identifies if you possess or have access to radiation monitoring instruments, nor does your application include alternate procedures for assessing source integrity after an incident involving the gauge.

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

- The statement, “We will either possess and use, or have access to and use, a radiation survey meter that meets the criteria in the section titled “Radiation Safety Program-Radiation Monitoring Instruments” in NUREG–1556, Volume 1, Revision 2, “Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Portable Gauge Licenses,” in the event of an incident”; or
- A description of an alternative procedure for determining source integrity after an incident involving the gauge.

Please respond either by indicating if you possess and use, or have access to and use, a radiation survey meter meeting the criteria in Section 8.10.2 of the guidance or submit alternative procedures for determining source integrity after an incident involving the gauge.

7. Section 8.10.3, “Material Receipt and Accountability,” of the guidance, identifies that licensed material must be tracked “from cradle to grave” in order to ensure gauge accountability; identify when sealed sources/gauges could be lost, stolen, or misplaced; and ensure that possession limits listed on the license are not exceeded. Licenses must do the following:

- Maintain records of receipt, transfer and disposal of gauges;
- Conduct physical inventories every 6 months (or at other intervals justified by the applicant and approved by the NRC) to account for all sealed sources.

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

- The statement, “Physical inventories will be conducted every 6 months or at other intervals approved by the NRC to account for all sealed sources and devices received and possessed under the license”; or
- A description and justification of an alternate frequency and/or procedure to account for all sealed sources and devices received and possessed under the license; and

- The statement, “We will develop, implement and maintain procedures for ensuring accountability of licensed materials at all times.”

Please state how you ensure that physical inventories are conducted every six months and maintain accountability of licensed materials at all times. If applicable, include a description and justification for an alternate frequency and/or procedure to account for all sealed sources and devices received and possessed under the license.

8. Section 8.10.4, “Occupational Dose,” of the guidance, states that applicants must evaluate the potential occupational exposure of all workers and monitor occupational exposure when appropriate.

Your application fails to identify if you have assessed the potential occupational exposure of all workers or if you have implemented monitoring of occupational exposures.

Please provide an acceptable response. As indicated in the guidance, an acceptable response should include a statement identifying that personnel monitoring is not required or include a commitment to provide and require the use of dosimetry. Please refer to Section 8.10.4 and Appendix H, “Dosimetry-Related Guidance,” of the guidance for additional information.

9. Section 8.10.6, “Operating, Emergency and Security Procedures,” of the guidance states that applicants must develop, implement, and maintain Operating, Emergency, and Security Procedures.

Your application failed to include complete Operating, Emergency and Security Procedures, which should include the following components:

- Instructions for using the portable gauge and performing routine maintenance according to the manufacturer’s recommendations and instructions;
- Instructions for maintaining security during storage and transportation;
- Instructions to keep the gauge under control and constant surveillance during field operations;
- Steps to take to keep radiation exposures ALARA;
- Steps to maintain accountability during use;
- Steps to control access to a damaged gauge; and
- Steps to take and whom to contact when a gauge has been damaged

Acceptable procedures are included in Appendix G, “Operating, Emergency and Security Procedures,” of the guidance. In your response, you may state that you will implement and maintain the aforementioned procedures, or you may state that you will develop, implement and maintain equivalent procedures satisfying the criteria identified in Section 8.10.6 of the guidance, or provide alternative procedures.

In addition, please confirm that copies of your procedures will be provided to all gauge users and will be available at each jobsite.

10. Section 8.10.7, "Leak Tests," of the guidance and 10 CFR §30.53, "Tests," require applicants to address the performance of leak testing, which is necessary to assess radioactive leakage from the source in the portable gauge.

Your application fails to identify how you will perform leak testing of your portable gauging devices.

Please submit a description of how you will ensure the performance of leak testing. Additional guidance for preparing an acceptable response is provided in Section 8.10.7 of the guidance.

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

Your application was silent on this matter and made no commitments for either routine maintenance and/or non-routine maintenance of portable gauging devices.

Please review Section 8.10.8 of the guidance and provide complete commitments for maintenance of the gauges. Note that if you request authorization for non-routine maintenance, we will require, at a minimum, that the information in Appendix F, "Information needed to support applicant's request to perform Nonroutine Maintenance," of the guidance, is also provided.

To continue the review of your amendment request, please provide a written response to this letter by January 21, 2021. Your response must be dated and signed by you or another management representative. Please reference Mail Control Number 622680 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. Nuclear Regulatory Commission's (NRC) "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

License No. 21-32235-01  
Docket No. 030-35313  
Control No. 622680