



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

February 19, 2021

Kyle D. Foli, CSP
Safety & Training Team Leader / RSO
Hoosier Energy REC, Inc.
P.O. Box 908
Bloomington, IN 47402-0908

Dear Mr. Foli:

This letter is in reference to your application dated November 16, 2020, requesting the renewal of U.S. Nuclear Regulatory Commission (NRC) Materials License No. 13-18945-01.

The NRC's guidance document for your type of license, which I refer to throughout this letter as "the guidance", is NUREG-1556, Volume 1, Rev. 4, dated June 2016, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Fixed Gauge Licenses." This guidance is available on the NRC Web site at:

<https://www.nrc.gov/docs/ML1618/ML16188A048.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 and Equipment Description and Radiation Protection Program.

Your application was not prepared in accordance with the most recent revision of the guidance and 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 information regarding completion of the license application may be found in Section 8, "Contents of an Application," of the guidance.

2. Section 8.2, Item 2, "Name and Mailing Address of Applicant," of the guidance specifies that the applicant list the legal name of the applicant's corporation or other legal entity with direct control over use of radioactive material.

Your application identifies that your legal name is *HOOSIER ENERGY REC INC.* A check with the Indiana Secretary of State's Business Services Division was not successful in confirming the active registration of your company. However, an active registration was located for *HOOSIER ENERGY RURAL ELECTRIC COOPERATIVE INC.*

Please confirm that your company's full legal name is *HOOSIER ENERGY RURAL ELECTRIC COOPERATIVE INC.*

3. Section 8.5, "Item 5: Radioactive Material," of the guidance states that the applicant must provide the radionuclide and nominal activity for each requested sealed source, manufacturer's or distributor's name, model number of each device, the number of gauges for each model and a description of use of the gauges.

In accordance with your request dated December 19, 2019, your license previously authorized you to acquire the Thermo Process Instruments, LP, Model 5190 fixed gauging devices to allow for the replacement of your Kay-Ray Model 7062P source holders that are either approaching or have now exceeded the maximum recommended working life.

Your application for license renewal did not include a request to maintain authorization for the Thermo Process Instruments, LP, Model 5190 fixed gauging devices. Therefore, please clarify the status of these previously authorized fixed gauging devices. Include any applicable records of transfer and/or disposal of these fixed gauging device along with current leak test reports.

4. Section 8.7.1, "Radiation Safety Officer," of the guidance identifies that the Radiation Safety Officer (RSO), is responsible for the oversight of licensed operations. The RSO must have sufficient organizational authority and management prerogative to enforce appropriate radiation protection rules, standards, and practices.

To formally establish the organizational authority of your office, submit an updated delegation of authority signed by a management representative. A model Delegation of Authority is provided in Appendix C, "Typical Duties and Responsibilities of the Radiation Safety Officer," of the guidance.

5. Section 8.7.2, "Authorized Users," of the guidance identifies that Authorized Users (AUs) must have adequate training and experience in the use of fixed gauging devices.

The "Response from Applicant" section of the guidance states that one of the following should be provided:

- The statement: "Before using licensed materials, authorized users will have successfully completed one of the training courses described in the 'Criteria' part of the section titled, 'Authorized Users' in NUREG-1556, Volume 4, Revision 1, 'Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Fixed Gauge Licenses.'", or
- A description of the training and experience for proposed AUs.

In your application, you stated the following: "Before using licensed materials, authorized users will have successfully completed one of the training courses described in Criteria in the section entitled 'Authorized Users' in NUREG-1556, Vol. 4, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauges Licenses,' dated October 1998."

This is not an acceptable response because it does not refer to the current revision of the guidance. Please submit an acceptable response as specified in the guidance.

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

The "Response from Applicant" section of the guidance states that one of the following should be provided:

- The statement, "We will ensure that the location of each fixed gauge meets the criteria in Section 8.9, 'Facilities and Equipment,' in NUREG-1556, Volume 4, Revision 1, 'Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Fixed Gauge Licenses,'" or
- Confirmation that the fixed gauge is secured to prevent unauthorized removal or access and submittal of specific information demonstrating that the proposed conditions will not impact the safety or integrity of the source or device (address any instances where the proposed conditions exceed any conditions listed in the SSD registration certificate.)

In your application, you stated the following: "We will ensure that the location of each fixed gauge meets the criteria in the section entitled, "Facilities and Equipment" in NUREG-1556, Vol. 4, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauge Licenses,' dated October 1998.

This is not an acceptable response because it does not refer to the current revision of the guidance. Please submit an acceptable response as specified in the guidance or provide alternative procedures.

7. 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.

In your application, you stated the following: "We will use instruments that meet the Criteria in the section entitled 'Radiation Safety Program - Instruments,' in NUREG-1556, Vol. 4, dated August 1998, and each survey meter will be calibrated by the manufacturer or other person authorized by the NRC or an Agreement State to perform survey meter calibrations."

This is not an acceptable response because it does not conform with or refer to the current revision of the guidance. Please review the "Response from Applicant," section of the guidance and provide an acceptable response.

8. 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 fixed gauging devices;
- 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; and
- Update transactions in the National Source Tracking System (NSTS) and perform an NSTS annual inventory reconciliation, if applicable.

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.”

In your application, you stated the following: “Physical inventories will be conducted at intervals not to exceed 6 months or at other intervals approved by the NRC, to account for all sealed sources and devices received and possessed under the license.”

Your response is not complete because your response does not also identify how you ensure accountability of licensed materials at all times. Please provide a complete and acceptable response.

9. Section 8.10.4, “Occupational Dose,” of the guidance, states that licensees must evaluate the potential occupational exposure of all workers and monitor occupational exposure.

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

- The statement, “We will maintain, for inspection by the NRC, documentation demonstrating that unmonitored individuals are not likely to receive a radiation dose in excess of the limits in 10 CFR 20.1502(a),” or
- The statement, “We will provide and require the use of individual monitoring devices (dosimetry). All personnel dosimeters that require processing to determine the radiation dose will be processed and evaluated by a NVLAP-approved processor.”

In your application, you stated the following: “We will perform a prospective evaluation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20.”

This is not acceptable response because it does provide a commitment to maintaining documentation available for inspection by the NRC. Please provide an acceptable response. Please refer to Section 8.10.4 and Appendix G, “Dosimetry-Related Guidance,” of the guidance for additional information.

10. Section 8.10.6, “Operating, Emergency, and Security Procedures,” of the guidance, states that applicants must develop, implement and maintain adequate Operating, Emergency & Security (OE&S) Procedures. In addition, copies of the OE&S Procedures must be provided to all gauge users and the procedures should be posted or otherwise made available at each location of use.

The NRC permits greater flexibility when licensing certain types of fixed gauging devices. For each fixed gauging device that is requested, if one or more of the following safety conditions are met, the applicant need not submit the OE&S Procedures for NRC review during the licensing process:

- the air gap between the radiation source and detector of the device is less than 45 centimeters [18 inches];
- the air gap of the device would not allow insertion of a 30-centimeter [12-inch] diameter sphere into the radiation beam of the device without removal of a barrier;
- the radiation dose rate in the radiation beam of the device at 45 centimeters [18 inches] from the radiation source with the device shutters, if any, in the open position does not exceed 1 mSv per hour [0.1 rem per hour]; and
- entry into vessels (e.g., bins, tanks, hoppers, or pipes) with a gauge installed is not necessary under any foreseeable circumstances and is prohibited

The "Response from Applicant," section of the guidance specifies that that one of the following should be provided:

- If the gauge meets one or more of the safety conditions, provide the, "Operating, emergency and security procedures will be developed, implemented, maintained and distributed, and will meet the criteria in Section 8.10.6, 'Operating, Emergency and Security Procedures,' in NUREG-1556, Volume 4, Revision 1, 'Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Fixed Gauge Licensees'", or
- If the gauge does not meet any of the safety conditions, provide your operating, emergency, security, and lock-out (if applicable) procedures.

In your application, you stated the following: "Operating and emergency procedures will be developed, implemented, maintained, and distributed, and will meet the Criteria in the section entitled 'Radiation Safety Program - Operating and Emergency Procedures' in NUREG- 1556, Vol. 4, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauge Licenses,' dated October 1998."

This is not acceptable response because it does not identify if your gauging devices satisfy one or more of the safety criteria and does not refer to the current revision of the guidance. Please provide an acceptable response or submit alternate procedures.

11. Section 8.13, "Item 13: Certification," of the guidance specifies that the license application must be signed and dated by a person authorized to make binding commitments on behalf of the applicant.

The submitted license application was signed by you. However, your job title does not identify you as being a member of your company's management. If you have another job title that identifies you as a member of management, please clarify that in your response to this letter. Otherwise, please resubmit the license application bearing the signature of a management representative.

To continue the review of your amendment request, please provide a written response to this letter by March 20, 2021. Your response must be dated and signed by a licensee's representative and please reference Mail Control Number 623914 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.

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. 13-18945-01
Docket No. 030-17387
Control No. 623914