



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
1600 E. LAMAR BLVD  
ARLINGTON TX 76011-4511

September 30, 2022

Brian A. Vasel, B.S.  
Radiation Safety Officer  
U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
325 Broadway St  
Boulder, CO 80305

SUBJECT: RENEWAL AMENDMENT NO. 45 TO RADIOACTIVE MATERIALS LICENSE  
FOR U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION, NRC LICENSE NO. 05-11997-01

Dear Brian A. Vasel:

Please find enclosed Amendment No. 45 to NRC License No. 05-11997-01, renewing your radioactive materials license in its entirety, as requested in your application dated December 29, 2021. An environmental assessment for this licensing action is not required since this action is categorically excluded under 10 CFR 51.22(c). You should review this license carefully and be sure that you understand all conditions. You can contact me at [Latischa.Hanson@nrc.gov](mailto:Latischa.Hanson@nrc.gov) if you have any questions about this license.

The NRC's Safety Culture Policy Statement became effective in June 2011. While a policy statement is not a regulation, it sets forth the agency's expectations for individuals and organizations to establish and maintain a positive safety culture. You can access the policy statement and supporting material that may benefit your organization on NRC's safety culture Web site at: <https://www.nrc.gov/about-nrc/safety-culture.html>. We strongly encourage you to review this material and adapt it to your particular needs in order to develop and maintain a positive safety culture as you engage in NRC-regulated activities.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public that can result from failure to comply with NRC requirements, you must conduct your radiation safety program according to the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate by NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC in writing of any change in mailing address.
3. By 10 CFR 30.36(d) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:

- a. When you decide to terminate all activities involving materials authorized under the license whether at the entire site or any separate building or outdoor area;
  - b. If you decide not to acquire or possess and use authorized material; or
  - c. When no principal activities under the license have been conducted for a period of 24 months.
4. Request and obtain a license amendment before you:
    - a. Change Radiation Safety Officers;
    - b. Order byproduct material in excess of the amount, radionuclide or form authorized on the license;
    - c. Add or change the areas or address(es) of use identified in the license application or on the license, except for areas of use where byproduct material is used; or
    - d. Change the name or ownership of your organization.
  5. Submit a complete renewal application or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.

In addition, please note that NRC Form 313 requires the applicant, by signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant. Since the NRC also accepts a letter requesting amendment of an NRC license, the signatory for such a request should also be the licensee or certifying official rather than a consultant.

NRC will periodically inspect your radiation safety program. Failure to conduct your program according to NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC may result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the NRC Enforcement Policy. The NRC Enforcement Policy is available at: <https://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

B. Vasel

-3-

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at: <https://www.nrc.gov/reading-rm/adams.html>.

Thank you for your cooperation.

Sincerely,

Latischa M. Hanson, M.Sc., Health Physicist  
Materials Licensing Branch

Docket: 030-03746  
License: 05-11997-01  
Control: 629638

Enclosure: As stated

**MATERIALS LICENSE**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 70 and 71, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>1. U.S. Department of Commerce National Oceanic and Atmospheric Administration</p> <p>2. 325 Broadway Street Boulder, CO 80305</p>		<p>In accordance with application dated December 29, 2021; and E-mail dated September 29, 2022 with attachments.</p>	<p>4. Expiration Date: September 30, 2037</p>
		<p>3. License No.: 05-11997-01 is renewed in its entirety to read as follows:</p>	<p>5. Docket No.: 030-03746 Reference No.:</p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Nickel-63</p> <p>B. Polonium-210</p>	<p>7. Chemical and/or physical form</p> <p>A. Foils or plated sources (Foils or plated Sources registered either with NRC under 10CFR32.210 or with an Agreement State and incorporated in a compatible or custom- made gas chromatograph), Model Various)</p> <p>B. Foils or plated sources (Foils or plated Sources registered either with NRC under 10CFR32.210 or with an Agreement State and incorporated in a compatible or custom- made gas chromatograph, Model Various)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 15 millicuries per source and 2.7 curies total</p> <p>B. 30 millicuries per source and 400 millicuries total</p>	<p>9. Authorized use</p> <p>A. Measure Physical properties of Materials and Research and Development.</p> <p>B. Measure Physical properties of Materials and Research and Development.</p>

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.: 05-11997-01

Docket or Reference No.:  
030-03746

Amendment No. 45

6. Byproduct, source, and/or special nuclear material

7. Chemical and/or physical form

8. Maximum amount that licensee may possess at any one time under this license

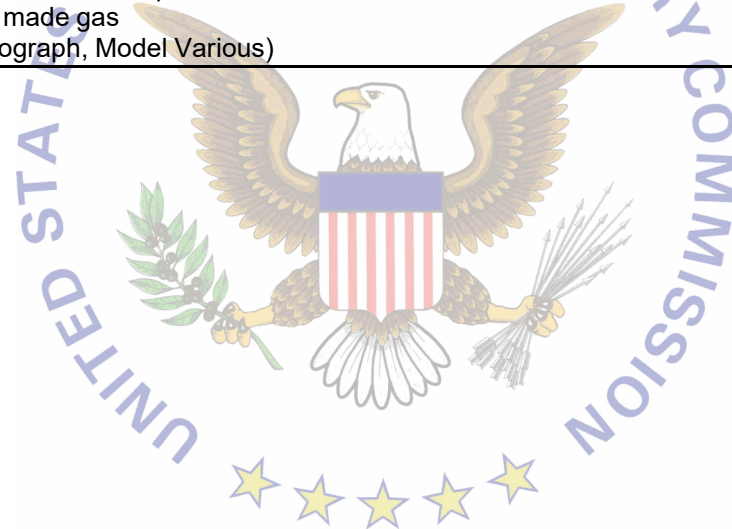
9. Authorized use

C. Americium-241

C. Foils or plated sources (Foils or plated Sources registered either with NRC under 10CFR32.210 or with an Agreement State and incorporated in a compatible or custom- made gas chromatograph, Model Various)

C. 20 millicuries per source and 100 millicuries total

C. Measure Physical properties of Materials and Research and Development.





**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.: 05-11997-01

Docket or Reference No.:

030-03746

Amendment No. 45

Authorized Users

Troy Thornberry, Ph.D.

Brian A. Vasel, B.S.

Patrick R. Veres, Ph.D.

Material and Use

All, research and development as defined in 10 CFR 30.4.

All, research and development as defined in 10 CFR 30.4.

All, research and development as defined in 10 CFR 30.4.

B. The Radiation Safety Officer (RSO) for this license is Brian A. Vasel, B.S.

12. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State. In the absence of a registration certificate, sealed sources shall be tested for leakage and/or contamination at intervals not to exceed 6 months, or at such other intervals as specified.
- B. Notwithstanding Paragraph A of this Condition, detector cells containing Nickel-63 located in remote geographic locations that are inaccessible due to adverse weather conditions shall be tested for leakage and/or contamination at intervals not to exceed 1 year as specified in the application dated December 29, 2021 and E-mail dated September 29, 2022 with attachments.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
- D. Sealed sources need not be tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.: 05-11997-01

Docket or Reference No.:  
030-03746

Amendment No. 45

- E. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcuries) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 microcuries) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.
- F. Analysis of leak test samples and/or contamination shall be performed by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is authorized to collect leak test samples but not perform the analysis.
- G. Records of leak test results shall be kept in units of becquerels (microcuries) and shall be maintained for 3 years.
13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.
14. Maintenance, repair, cleaning, replacement, and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
15. A. The licensee is authorized to perform non-routine maintenance involving the installation of electron capture detectors (ECDs) containing Nickel-63 into custom-made Oven Assemblies (OAs), replacement and repair of electronic components on the exterior of ECDs, removal and replacement of ECDs from custom-made OAs, and removal from service of ECDs taken from custom-made OAs as described in the procedures included with application dated December 29, 2021 and procedures included in E-mail dated September 29, 2022 with attachments. This non-routine maintenance does not authorize opening the ECDs or removing the sealed sources from the ECDs.
- B. The following individuals are authorized to perform the non-routine maintenance described in Paragraph A of this Condition: Geoffrey S. Dutton, Bradley D. Hall, Fred L. Moore, and James M. Roberts.



**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.: 05-11997-01

Docket or Reference No.:  
030-03746

Amendment No. 45

16. The licensee shall comply with the temperature limits and with the section titled "Limitations and/or other considerations of use" described in the corresponding Sealed Source and Device Registration certificate of each registered electron capture detector and/or of each registered sealed source used in custom-made gas chromatographs.
17. The licensee shall comply with the temperature limits and with the section "Limitations and/or other considerations of use" described in the corresponding Sealed Source and Device Registration certificate of each registered electron capture detector and/or of each registered sealed source used in compatible gas chromatographs.
18. The licensee shall not use the licensed material in or on humans.
19. This license does not authorize disposal of licensed material in land or at sea.
20. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
21. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
22. The licensee shall conduct a physical inventory every 6 months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 3 years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.: 05-11997-01

Docket or Reference No.:  
030-03746

Amendment No. 45

23. Notwithstanding the requirements of License Condition Number 24, the licensee is authorized to make program changes and changes to procedures specifically identified in the application dated December 29, 2021 and E-mail dated September 29, 2022 with attachments, which were previously approved by the U.S. Nuclear Regulatory Commission and incorporated into the license without prior Commission approval as long as:
- A. The proposed revision is documented, reviewed, and approved by the licensee's Radiation Safety Committee in accordance with established procedures prior to implementation;
  - B. The revised program is in accordance with regulatory requirements, will not change the license conditions, and will not decrease the effectiveness of the Radiation Safety Program;
  - C. The licensee's staff is trained in the revised procedures prior to implementation; and
  - D. The licensee's audit program evaluates the effectiveness of the change and its implementation.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.: 05-11997-01

Docket or Reference No.:  
030-03746

Amendment No. 45

24. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. This license condition applies only to those statements, representations, and procedures that are required to be submitted in accordance with the regulations. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence impose on the licensee requirements that are more restrictive than or in addition to the regulations.

A. Application dated December 29, 2021 (ML21364A102)

B. E-mail dated September 29, 2022 with attachments (ML22272A529)



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

**Latischa M. Hanson**

Digitally signed by Latischa M.  
Hanson

By: \_\_\_\_\_

Date: 2022.09.30 17:47:33 -05'00'

Latischa M. Hanson  
Region IV

Date: September 30, 2022