

**U.S. NUCLEAR REGULATORY COMMISSION**

**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, 39, 40, and 70, 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.

Licensee	
1. Golder Associates, Inc.	3. License number 50-29400-02
2. 2121 Abbott Road Anchorage, Alaska 99507	4. Expiration date <b>September 30, 2020</b>
	5. Docket No. 030-38323 Reference No.

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
A. Cesium-137	A. Sealed sources (Technology/QSA, Inc., Model CDCW556; or Isotope Products Laboratories Model HEG-137)	A. 9 millicuries per source and 18 millicuries total.
B. Americium-241	B. Sealed neutron sources (AEA Technology/QSA, Inc., Model AMNV.997; or Isotope Products Laboratories Models AM1.NO2, 3021 or 3027)	B. 44 millicuries per source and 88millicuries total.
C. Radium-226	C. Sealed sources (Radium Chemical Company Model RAN-W25 or Drawing 21.94; AEA Technology/QSA, Inc., Model RAN.C1)	C. 5.5 millicuries per source and 33 millicuries total.
D. Americium-241	D. Sealed neutron sources (Amersham Models AMN.6002 or AMN.Q1954; DuPont Merck Model NER-550; QSA Model CDC.800 Series; Gammatron Models AN-HP or ANHPG; ; Isotope Products Laboratory Model AM1.N02; AEA Technology/QSA, Inc., Models AMN.PE5, AMN.V997)	D. 50 millicuries per source and 100 millicuries total.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
50-29400-02

Docket or Reference Number  
030-38323

- |   |  |  |
|---|--|--|
| 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 |
| E. Cesium-137   | E. Sealed sources (Amersham CDC.804, CDC.805, AMN.6002 ; 3M Corporation Model 4P6M; Gammatron Models GT-GHP or ANHPG; Isotope Products Laboratory Model HEG-137) | E. 10 millicuries per source and 20 millicuries total.                         |

9. Authorized use:

- A. and B. To be used in Troxler Electronic Laboratories, Model 3400 Series portable gauging devices for measuring physical properties of materials.
- C. through E. To be used in Seaman Nuclear Corporation Models C-200 and C-300 portable gauging devices for measuring physical properties of materials.

**CONDITIONS**

10. Licensed material may be used or stored only at the licensee's facilities located at:
- A. 2121 Abbott Road #100, Anchorage, Alaska.
- B. Temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material, including areas of exclusive Federal jurisdiction within Agreement States.
- If the jurisdiction status of a Federal facility within an Agreement state is unknown, the licensee should contact the federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.
11. Licensed materials may be used by, or under the supervision and in the physical presence of, individuals who have received the training described in application dated July 13, 2010 and email dated September 20, 2010.
12. The Radiation Safety Officer (RSO) for this license is Steven L. Anderson.
13. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
50-29400-02Docket or Reference Number  
030-38323

- B. 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 U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested and the test results received.
- C. 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.
- D. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) 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. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 612 East Lamar Blvd., Suite 400, Arlington, Texas 76011-4125, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- E. Tests for leakage 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. In addition, the licensee is authorized to collect leak test samples but not perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
- F. Records of leak tests results shall be kept in units of microcuries and shall be maintained for 3 years.
14. Sealed sources or source rods containing licensed material shall not be opened or sources removed or detached from source rods or gauges by the licensee, except as specifically authorized.
15. 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 sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 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.
16. Except for maintaining labeling as required by 10 CFR Part 20 or 71, the licensee shall obtain authorization from U.S. Nuclear Regulatory Commission before making any changes in the sealed source, device, or source-device combination that would alter the description or specifications as indicated in the respective Certificates of Registration issued either by the Commission pursuant to 10 CFR 32.210 or by an Agreement State.
17. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
50-29400-02

Docket or Reference Number  
030-38323

18. Any cleaning, maintenance, or repair of the gauges that requires detaching the source or source rod from the gauge shall be performed only by the manufacturer or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
19. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
20. A. If the licensee uses unshielded sealed sources extended more than 3 feet below the surface, the licensee shall use surface casing that extends from the lowest depth to 12 inches above the surface and other appropriate procedures to reduce the probability of the source or probe becoming lodged below the surface. If it is not feasible to extend the casing 12 inches above the surface, the licensee shall implement procedures to ensure that the cased hole is free of obstruction before making measurements.
- B. If a sealed source or a probe containing sealed sources becomes lodged below the surface and it becomes apparent that efforts to recover the sealed source or probe may not be successful, the licensee shall notify the U.S. Nuclear Regulatory Commission and submit the report required by 10 CFR 30.50(b)(2) and (c). The licensee shall not abandon the sealed source or probe without obtaining the Commission's prior written consent. Notification and reporting requirements should be made to the NRC Emergency Operations Center at 301-816-5100.
21. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d), 40.36 (b) and 70.25 (d) for establishing financial assurance for decommissioning.
22. 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. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated July 13, 2010 (ML102420202)  
B. Email dated September 20, 2010 (ML102630613)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Date September 30, 2010

By \_\_\_\_\_  
Michelle R. Simmons  
Nuclear Materials Safety Branch B  
Region IV  
Arlington, Texas 76011-4125