



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064**

January 31, 2000

Department of the Interior
Geological Survey
ATTN: Dennis A. Clark
Radiation Safety Officer
5735 Kearny Villa Road, Suite O
San Diego, CA 92123

SUBJECT: LICENSE AMENDMENT

Please find enclosed Amendment No. 14 to License No. 04-21367-01. You should review this license carefully and be sure that you understand all conditions. If you have any questions, you may contact me at 817-860-8132.

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(b) 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; or
 - b. If you decide not to complete the facility, acquire equipment, or possess and use authorized material.
4. Request and obtain a license amendment before you:
 - a. Change Radiation Safety Officers;
 - b. Order byproduct material more than the amount 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; 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.

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 "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG 1600.

Thank you for your cooperation.

Sincerely,

/RA/

Jacqueline D. Cook
Health Physicist
Nuclear Materials Licensing Branch

Docket: 030-20561
License: 04-21367-01
Control: 467669

Enclosures: As stated

License: 04-21367-01

Amendment: 14

Docket: 030-20561

Licensee: Department of the Interior
Geological Survey

Certification of Application Review for a Part 30, 40, and 70 License

I certify that I have reviewed the letter dated December 20, 1999, as supplemented by any letters referenced in the license in accordance with guidance provided by the Office of Nuclear Materials Safety and Safeguards applicable Standard Review Plan and associated checklist and have concluded that:

A. If the license is being terminated, I have received adequate documentation to demonstrate that all radioactive materials and contamination possessed under this license has been properly removed and the licensee's facilities are suitable for unrestricted use, or that the radioactive material is covered by another valid license.

B. For a new license, amendment, or renewal:

- (1) The application is for a purpose authorized by the Act;
- (2) The applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property;
- (3) The applicant is qualified by training and experience to use the material for the purpose requested in such manner as to protect health and minimize danger to life;
- (4) The applicant satisfies any special requirements contained in Parts 32-40 and 70; and
- (5) The application is not for commercial waste disposal by land burial or for any other activity which the Commission has determined will significantly affect the quality of the environment.

ORIGINAL SIGNED BY
JACQUELINE D. COOK
Health Physicist

January 31, 2000
Date

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.

<p style="text-align: center;">Licensee</p> <p>1. Department of the Interior Geological Survey</p> <p>2. 5735 Kearny Villa Road, Suite O San Diego, California 92123</p>	<p>In accordance with letter dated December 20, 1999,</p> <p>3. License number 04-21367-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date October 31, 2003</p> <hr/> <p>5. Docket No. 030-20561 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Americium-241</p>	<p>7. Chemical and/or physical form</p> <p>A. Sealed neutron sources (Troxler Dwg. A-102700)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. Not to exceed 10 millicuries per source and 50 millicuries total</p>
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<p>9. Authorized use</p> <p>A. For use in Troxler Model 3330 or 4300 Series gauges to measure subsurface moisture.</p>
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CONDITIONS

10. Radioactive material shall be used only at the following:
- A. 5735 Kearny Villa Road, Suite O, San Diego, California.
 - B. Temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating 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 material shall be used by, or under the supervision and in the physical presence of, Dennis A. Clark, Allen H. Christensen, or individuals who have successfully completed the manufacturer's training program for gauge users, have been instructed in the licensee's routine and emergency operating procedures, and who have been designated by the Radiation Protection Officer.

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12. The Radiation Safety Officer for this license is Dennis A. Clark.
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 NRC under 10 CFR 32.210 or by an Agreement State.
- 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 NRC 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.
- C. Sealed sources need not be leak 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 of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(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, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, 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 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.
14. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.
15. The licensee shall conduct a physical inventory every 6 months, or at other interval approved by the NRC, to account for all sources and/or devices received and possessed under the license.
16. 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.

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17. Except for maintaining labeling as required by 10 CFR Part 20 or 71, the licensee shall obtain authorization from NRC 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.
18. Any cleaning, maintenance, or repair of the gauge(s) that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the 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.
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) for establishing decommissioning financial assurance.

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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 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 15, 1993
 - B. Facsimile dated September 30, 1993
 - C. Letter dated July 27, 1994
 - D. Letter dated September 6, 1996
 - E. Facsimile received September 19, 1996
 - F. Letter dated June 2, 1997
 - G. Letter dated September 25, 1997
 - H. Letter dated October 14, 1997
 - I. Telefacsimile received December 12, 1997
 - J. Letter dated December 17, 1997, from Michael Ocasio
 - K. Documents received April 28, 1999
 - L. Letter dated December 20, 1999



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

**ORIGINAL SIGNED BY
JACQUELINE D. COOK**Date January 31, 2000

By _____

Jacqueline D. Cook, Health Physicist
Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011