

CORRECTED COPY

MATERIALS LICENSE

Amendment No. 05

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, 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		In accordance with application dated April 4, 1984	
1. Caterpillar Tractor Company Research Department		3. License number 12-00013-06 is amended in its entirety to read as follows:	
2. Technical Center, Building E Peoria, IL 61629		4. Expiration date	June 30, 1990
		5. Docket or Reference No.	030-09695/030-01421
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. Chromium-51	A. Any	A. 200 millicuries	
B. Chromium-51	B. Salt or metal sandwiched between layers of cellophane tape	B. 100 millicuries	
C. Cesium-137/Americium-241	C. Combined sealed source (New England Nuclear Model 560)	C. Not to exceed 10 millicuries of Cesium-137 and 55 millicuries of Americium-241 per source	
D. Cesium-137/Americium-241	D. Combined sealed source (Any sealed source that has been approved by the NRC or an Agreement State for use in Campbell Pacific Nuclear Model CPN-131 moisture/density gauges)	D. Not to exceed 10 millicuries of Cesium-137 and 50 millicuries of Americium-241 per source	
E. Any byproduct with Atomic Nos. 1-83, inclusive	E. Any	E. 1 curie	

9. Authorized Use

- A. To be used to fabricate tape containing licensed material.
- B. For use in subsurface marking of defects in hydraulic hose sections during manufacture.

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- C. For use in Soil Test Model NIC-5DT gauges for measurement of moisture-density of materials.
- D. For use in Campbell Pacific Nuclear Corp. Model No. CPN-131 gauges for measurement of moisture-density of construction materials.
- E. For storage only, pending disposal.

CONDITIONS

- 10. Licensed materials may be used at the licensee's facilities located at Research Technical Center, Building E, Mossville, Illinois. Licensed material listed under Subitem B. as a finished tape, may also be used at the licensee's Hose Manufacturing Facility, Building MH, Mossville, Illinois. Licensed material listed under Subitems C. and D. may be used at the licensee's facilities located at Caterpillar Proving Ground, Spring Creek Road, Washington, Illinois and at temporary job sites of the licensee anywhere in the United States where the Nuclear Regulatory Commission maintains jurisdiction for regulating the use of material.
- 11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."
- 12.
  - A. Licensed material listed under Subitem 6.A. may be used by C. M. Otto, Mark W. Stewart, John J. Groezinger or Joseph C. Hafele, Ph.D.
  - B. Licensed material listed under Subitem 6.B. may be used by or under the supervision of John J. Groezinger, Sumner Hunt or Joseph C. Hafele, Ph.D.
  - C. Licensed materials listed under Subitems C. and D. may be used by, or under the supervision and in the physical presence of Gary Kramer or individuals who have completed the device manufacturer's or licensee's training program and have been approved by Gary Kramer and the licensee's Radiation Safety Officer. The licensee shall maintain records of the individuals who have been designated as authorized users.
  - D. The Radiation Protection Officer for the activities authorized by this license is John J. Groezinger.
- 13.
  - A.
    - (1) Each sealed source containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source received from another person shall not be put into use until tested.
    - (2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.

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- (3) The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five (5) days of the test with the U. S. Nuclear Regulatory Commission, Region III, 799 Roosevelt Road, Glen Ellyn, Illinois 60137, describing the equipment involved, the test results, and the corrective action taken.
- D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
- E. The licensee is authorized to collect leak test samples in accordance with the procedures described in the licensee's application dated April 23, 1985 for analysis by the licensee. Alternatively, leak test samples may be collected and/or analyzed by other persons specifically authorized by the Commission or an Agreement State to perform such services.
14. Sealed sources containing licensed material shall not be opened or removed from their respective source holders by the licensee.
15. The licensee shall not use licensed material in or on human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.
16. Licensed material shall not be used in or on human beings or in products distributed to the public.
17. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash provided:
- A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of ten (10) half-lives.
- B. Prior to disposal as normal waste, radioactive waste shall be monitored to determine that its radioactivity cannot be distinguished from background with typical low-level laboratory survey instruments. All radiation labels will be removed or obliterated.

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18. The licensee shall conduct a physical inventory every six (6) months to account for all licensed material received and possessed under the license. The records of the inventories shall be maintained for two (2) years from the date of the inventory for inspection by the Commission, and shall include the quantities and kinds of licensed material, location of all licensed material and the date of the inventory.
19. Maintenance or repair of portable devices involving removal of the sealed sources from the devices or removal or dismantling of shielding may be performed by the device manufacturer, or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
20. When performing tests at temporary job sites, the authorized user shall not leave the moisture/density gauge unattended. Upon completion of tests the device shall be locked in the licensee's vehicle or a secure building to prevent unauthorized use, loss or theft.
21. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions."
22. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated April 23, 1985 and letters dated April 18, 1985 and May 16, 1985. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

For the U.S. Nuclear Regulatory Commission

Original Signed By

By Bruce S. Mallett

Materials Licensing Section, Region III

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Date June 21, 1985