

## 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, 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. New Hampshire Yankee Seabrook Station		3. License number 28-20818-01
2. P. O. Box 300 Seabrook, New Hampshire 03874		4. Expiration date June 30, 1990
		5. Docket or Reference No. 030-22120
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. Any byproduct material with Atomic numbers 1 through 83, inclusive	A. Any	A. Not to exceed 10 millicuries per radionuclide and 1,000 millicuries total
B. Cesium 137	B. Sealed source	B. Not to exceed 120 millicuries
C. Cesium 137	C. Sealed source (J. L. Shepherd and Associates Model No. 6810)	C. Not to exceed 440 curies
D. Americium 241	D. Sealed source	D. Not to exceed 4.0 curies
E. Americium 241	E. Sealed source (Amersham Corporation Model No. AMN. CY9)	E. Not to exceed 5 curies
F. Californium 252	F. Sealed sources	F. Not to exceed 13 millicuries per source
G. Americium 241	G. Sealed source	G. Not to exceed 100 microcuries
H. Curium 244	H. Sealed source	H. Not to exceed 100 microcuries
I. Cesium 137	I. Sealed source (G. A. Technologies Model No. RT-10)	I. 2 sources not to exceed 10 millicuries each
J. Cesium 137	J. Sealed source (G. A. Technologies Model No. RT-11)	J. 2 sources not to exceed 100 millicuries
K. Uranium 232	K. Any	K. Not to exceed 100 microcuries
L. Thorium 230	L. Any	L. Not to exceed 100 microcuries
M. Thorium 228	M. Any	M. Not to exceed 100 microcuries

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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License number

28-20818-01

Docket or Reference number

030-22120

(Continued)

9. Authorized use:

- A. For use in calibrating radiation detection and monitoring equipment.
- B. For use in a J. L. Shepherd & Associates irradiator to calibrate radiation survey equipment and thermoluminescent dosimeters.
- C. For use in a J. L. Shepherd & Associates Model "Series 81" irradiator to calibrate radiation survey equipment and thermoluminescent dosimeters.
- D. For use in a boronometer which functions to monitor boron concentration levels in the reactor coolant system.
- E. For use as a source of neutrons for calibration of neutron survey instruments and operational checks on plant installed excore nuclear instrumentation.
- F. For storage only.
- G. through M. For use in calibration of radiation measuring equipment.

CONDITIONS

- 10. Licensed material shall be used only at the licensee's facility, New Hampshire Yankee, Seabrook Station, Route No. 1, Seabrook, New Hampshire.
- 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. Licensed material shall be used by, or under the supervision of, individuals designated by the Radiation Safety Committee, D. E. Moody, Chairman.
- 13. A.
  - (1) Each sealed source acquired from another person and 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 contamination and/or leakage prior to use. 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.
  - (3) Except for alpha sources, 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. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to use or transfer as a sealed source. If the inspection or test reveals any construction defects or 0.005 microcurie or greater of contamination, the source shall not be used or transferred as a sealed source until it has been repaired, decontaminated and retested.

**MATERIALS LICENSE**  
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(13. continued)

**CONDITIONS**

- C. 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 except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed three months.
- D. 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 or semipermanently 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.
- E. If the test required by Subsection A. or C. of this condition 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 5 days of the test with the U.S. Nuclear Regulatory Commission, Region I, 631 Park Avenue, King of Prussia, Pennsylvania 19406, describing the equipment involved, the test results, and the corrective action taken.
14. The licensee shall conduct a physical inventory every six (6) months to account for all sealed sources 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 byproduct material, manufacturer's name and model numbers, location of sealed sources and the date of the inventory.
15. Sealed sources containing licensed material shall not be opened or removed from instrument calibrators by the licensee.
16. This license does not authorize the insertion of neutron sources into a nuclear reactor.
17. 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 March 4, 1985 and letters dated May 7, 1985 and May 17, 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 John E. Glenn

Nuclear Materials Safety and  
Safeguards Branch, Region I  
King of Prussia, Pennsylvania 19406

Date JUN 03 1985