

# 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.

<p>Licensee</p> <p>1. Carolina Power &amp; Light Company North Carolina Eastern Municipal Power Agency</p> <p>2. 411 Fayetteville Street P.O. Box 1551 Raleigh, North Carolina 27602</p>	<p>3. License number SNM-1939</p> <p>4. Expiration date October 31, 1990 or*</p> <p>5. Docket or Reference No. 70-2997</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Uranium enriched in the U-235 isotope</p> <p>B. Uranium enriched in the U-235 isotope</p> <p>C. Uranium-neptunium</p> <p>D. Californium-252</p>	<p>7. Chemical and/or physical form</p> <p>A. In unirradiated reactor fuel assemblies</p> <p>B. Contained in sealed sources</p> <p>C. Contained in sealed sources</p> <p>D. Primary startup sources</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 1,900 kilograms of U-235 in uranium enriched to no more than 3.15% in U-235</p> <p>B. 2.5 grams of uranium at any enrichment</p> <p>C. 130 milligrams Np-237 and 80 milligrams U-238</p> <p>D. 300 millicuries</p>
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9. Authorized Use:

The materials are for use in accordance with statements, representations, and conditions specified in the licensee's revised application dated September 17, 1984, and its supplement dated October 10, 1985.

10. Authorized Place of Use:

The licensee's Shearon Harris Nuclear Power Plant, Unit 1, located in the southwest corner of Wake County and the southeast corner of Chatham County, North Carolina, as described in the aforesaid application.

\*Upon conversion of Construction Permit No. CPPR-157 to an operating license, whichever is earlier.

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11. Procedures, and changes thereto, for the control and handling of nuclear fuel shall include the review and approval of the Reactor Operator and the Manager, Technical Support.
12. The minimum technical qualifications of the Manager, Operations, shall be in accordance with Section 4.2.2, "Operations Manager," of ANSI/ANS-3.1-1978.
13. The minimum technical qualifications of the Manager, Technical Support, shall be in accordance with Section 4.2.4, "Technical Manager," of ANSI/ANS-3.1-1978.
14. The minimum qualifications for the Reactor Operator responsible for criticality safety for fuel assembly handling shall be in accordance with the following:
  - a. The Reactor Operator shall have held a Commission Reactor Operator's license at another facility and have had direct fuel handling experience, or
  - b. The Reactor Operator shall have held a responsible position in charge of new fuel receipt and handling at another facility.
15. The minimum qualifications of the Manager, Environmental and Radiation Control, and the Supervisor, Radiation Control, shall be in accordance with that of the Radiation Protection Manager specified in Regulatory Guide 1.8, "Personnel Selection and Training."
16. No more than 60 shipping containers, containing fuel, shall be stored in a single array.
17. There shall be an edge-to-edge separation of at least 20 feet between groupings of 60 fuel assembly-bearing shipping containers.
18. No more than one fuel assembly shall be out of its shipping container or storage location in the staging area or New Fuel Pool at any given time.
19. The minimum edge-to-edge distance between a fuel assembly outside its shipping container or storage rack and all other fuel assemblies shall be 12 inches.
20. Fuel assemblies shall be stored in such a manner that water would drain freely from the assemblies in the event of flooding and subsequent draining of the fuel storage area.
21. The licensee is hereby exempted from the provisions of 10 CFR 70.24 insofar as this section applies to material held under this license.
22. The personnel exposure monitoring devices shall be read daily and an individual's dose shall be estimated at least every two weeks and recorded.
23. The licensee shall comply with the provisions of Annex A, "License Conditions for Leak Testing Sealed Sources Which Contain Alpha and/or Beta-Gamma Emitters."

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24. The licensee shall maintain and fully implement all provisions of the Commission approved Physical Security Plan, including changes made pursuant to the authority of 10 CFR 70.32(e). The approved Physical Security Plan consists of Revision 1 to the Plan for Receipt, Possession, Storage, and Preparation for Transport of Special Nuclear Material of Low Strategic Significance for Shearon Harris Nuclear Power Plant, Unit No. 1, dated April 12, 1984, and as revised July 8, 1985. The Physical Security Plan shall be withheld from public disclosure pursuant to 10 CFR 2.790(d).

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:  
W. T. Crow

Date: OCT 28 1985

By:

Division of Fuel Cycle and  
Material Safety  
Washington, D.C. 20555NK 9/13/85  
VLT 9/15/85  
WTC 10/28/85

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## ANNEX A

### LICENSE CONDITION FOR LEAK TESTING SEALED SOURCES WHICH CONTAIN ALPHA AND/OR BETA-GAMMA EMITTERS

- A. 1. Each sealed source containing licensed material, other than Hydrogen-3, with a half-life greater than 30 days and in any form other than gas, shall be tested for leakage and/or contamination at intervals not to exceed 6 months. In the absence of a certificate from a transferor indicating that a test has been made within 6 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. The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within 6 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 appropriate accessible surfaces of the container, or device in which the sealed source is 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 by a person appropriately licensed to make such repairs or to be disposed of in accordance with the Commission regulations.

Within 5 days after determining that any source has leaked, the licensee shall file a report with the Division of Fuel Cycle and Material Safety, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, describing the source, the test results, the extent of contamination, the apparent or suspected cause of source failure, and the corrective action taken. A copy of the report shall be sent to the Administrator of the appropriate NRC Regional Office listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.