

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. Cumberland River Coal Company Pardee Complex 2. P.O. Drawer 109 Appalachia, Virginia 24216-0109	In accordance with the letter dated December 20, 2008, 3. License number 45-25523-01 is amended in its entirety to read as follows: 4. Expiration date June 30, 2010 5. Docket No. 030-35402 Reference No. 47-25204-01	
6. Byproduct, source, and/or special nuclear material A. Cesium 137 B. Americium 241 C. Californium 252 D. Cesium 137	7. Chemical and/or physical form A. Sealed Sources (AEA Model CDCW556 and Isotope Products Laboratories Model HEG-137) B. Sealed Neutron Sources (AEA Model AmNV.99 and Isotope Products Laboratories Model 3021, 3027, or Am1.N02) C. Sealed Sources (Amersham Corp. Model CVN.CY6 and Frontier Tech. Corp. Model 100) D. Sealed Sources (Amersham Corp. Model CDC.705 and Isotope Products Laboratories Model 225)	8. Maximum amount that licensee may possess at any one time under this license A. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State B. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State C. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State D. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State

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| 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 Corp. Model CDC.805, Kay-Ray/Sensall Model 7700-Y, TN Technologies Model 57157C) | E. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State |
| F. Americium 241 | F. Sealed Neutron Sources (Amersham Corp. Model AMC.26) | F. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State |
| G. Barium 133 | G. Sealed sources registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State. | G. 10 millicuries |

9. Authorized use:

- A. and B. In Troxler Electronic Laboratories, Inc. Model No. 3440 portable gauging devices for measuring physical properties of materials.
- C. and D. Sealed sources contained in Gamma-Metrics FastLab bulk sample analyzer and Gamma-Metrics CB-HI analyzer which have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license for laboratory analysis.
- E. through G. To be used, for measuring the properties of materials and/or controlling industrial processes, in fixed gauging devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, possess, and use the devices.

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CONDITIONS

10. A. Licensed material may be used or stored at the licensee's facilities located at Pardee Complex, Virginia, Route 603 (Dundar-Pardee Road), 6.9 miles from U.S Route 23 & Virginia 603 intersection, Appalachia, Virginia.
- B. Licensed material in Sub-Items 6.A. and 7.A. may also be used at temporary job sites of the licensee anywhere in the Commonwealth of Virginia where the Commonwealth maintains jurisdiction for regulating the use of licensed material. Authorization for use of radioactive materials at job sites under exclusive Federal jurisdiction or in Agreement States shall be obtained from the appropriate regulatory agency.
11. The Radiation Safety Officer for this license is Paul Bolling.
12. Licensed material shall be used by, or under the supervision and in the physical presence of, William C. Spry, Gary Wright, Rick Morgan, Paul Bolling, or individuals who have received 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 Safety Officer. The licensee shall maintain records of individuals designated as users for 3 years following the last use of licensed material by the individual.
13. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months or at the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of 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 the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source 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.

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- E. Tests for leakage and/or contamination, limited to leak test sample collection, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is not authorized to perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- F. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
14. The following services shall not be performed by the licensee: installation, initial radiation surveys, relocation, removal from service, dismantling, alignment, replacement, disposal of the sealed source and non-routine maintenance or repair of components related to the radiological safety of the gauge in Sub-item 9.E. through 9.G. (i.e., the sealed source, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, shielding). These services shall be performed only by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
15. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
16. A. Each gauge in Sub-item 9.E. through 9.G. shall be tested for the proper operation of the on-off mechanism (shutter) and indicator, if any, at intervals not to exceed 6 months or at such longer intervals as specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or the equivalent regulations of an Agreement State.
- B. Notwithstanding the periodic on-off mechanism (shutter) and indicator test, the requirement does not apply to gauges that are stored, not being used, and have the shutter lock mechanism in a locked position. The gauges exempted from this periodic test shall be tested before use.
17. The licensee shall operate each device containing licensed material within the manufacturer's specified temperature and environmental limits such that the shielding and shutter mechanism of the source holder are not compromised.
18. The licensee shall assure that the shutter mechanism, for each device in Sub-item 9.E. through 9.G. containing licensed material, is locked in the closed position during periods when a portion of an individual's body may be subject to the direct radiation beam. The licensee shall review and modify, as appropriate, its "lock-out" procedures whenever a new device is obtained to incorporate the device manufacturer's recommendations.
19. The licensee shall conduct a physical inventory every six 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.

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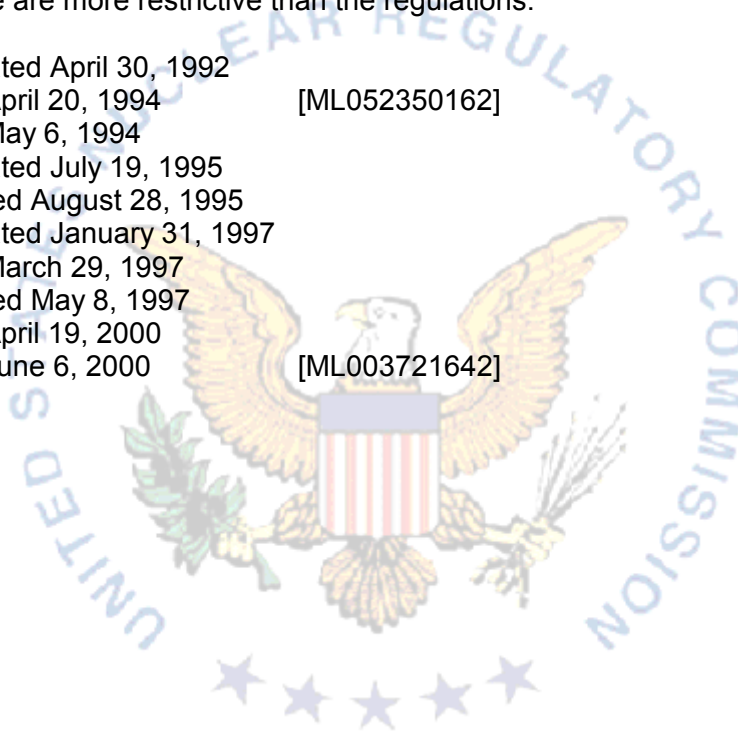
20. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
21. Prior to initial use and after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels in accessible areas around, above, and below the gauge in Sub-item 9.E. through 9.G. with the shutter open. This survey shall be performed only by persons authorized to perform such services by the U.S. Nuclear Regulatory Commission or an Agreement State.
22. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
23. 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 or storage, or when not under the direct surveillance of an authorized user.
24. 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.
25. Any cleaning, maintenance, or repair of the gauges in Sub-item 9.A. and 9.B. that requires detaching the source or source rod from the gauge shall be performed only by the manufacturer or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

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26. 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 April 30, 1992
- B. Letter dated April 20, 1994 [ML052350162]
- C. Letter dated May 6, 1994
- D. Application dated July 19, 1995
- E. Facsimile dated August 28, 1995
- F. Application dated January 31, 1997
- G. Letter dated March 29, 1997
- H. Facsimile dated May 8, 1997
- I. Letter dated April 19, 2000
- J. Letter dated June 6, 2000 [ML003721642]



For the U.S. Nuclear Regulatory Commission

Date March 31, 2009

By Original signed by Thomas K. Thompson
Thomas K. Thompson
Commercial and R&D Branch
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406