



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 13, 2006

Docket No. 03006660  
Control No. 139564

License No. 47-01876-01

Richard F. Bonar  
Radiation Safety Officer  
E. I. DuPont  
P. O. Box 1217  
Washington, WV 26181-1217

SUBJECT: E. I. DUPONT, LICENSE AMENDMENT, CONTROL NO. 139564

Dear Mr. Bonar:

This refers to your license amendment request dated October 13, 2006. Enclosed with this letter is the amended license.

**A routine review of your license identified an error in Condition 18 of your license. The Condition references Application dated December 23, 1993, instead of Application dated December 21, 1993. Also the Accession Number of the application in Condition 26 was incorrect. These errors are corrected in your amended license. We regret the inconvenience that these errors may have caused.**

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5239, so that we can provide appropriate corrections and answers.

An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(14).

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Industrial, and Academic Uses of Nuclear Material**; then **Toolkit Index Page**. Or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 9:00 p.m. EST, Monday through Friday (except Federal holidays).

R. Bonar  
E. I. DuPont

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Thank you for your cooperation.

Sincerely,

***Original signed by Sattar Lodhi, Ph.D.***

Sattar Lodhi, Ph.D.  
Senior Health Physicist  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 55

DOCUMENT NAME: C:\FileNet\ML063520616.wpd

**SUNSI Review Complete: SLodhi**

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|--------|------------|---|---------|--|---------|--|--|--|
| OFFICE | DNMS/RI    | N | DNMS/RI |  | DNMS/RI |  |  |  |
| NAME   | SLodhi/ASL |   |         |  |         |  |  |  |
| DATE   | 12/13/2006 |   |         |  |         |  |  |  |

OFFICIAL RECORD COPY

**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.

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| <p style="text-align: center;">Licensee</p> <p>1. E.I. DuPont</p> <p>2. P.O. Box 1217<br/>Washington, West Virginia 26181-1217</p> | <p>In accordance with the letter dated October 13, 2006,</p> <p>3. License number 47-01876-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date May 31, 2014</p> <hr/> <p>5. Docket No. 030-06660<br/>Reference No.</p> |
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|--|--|---|
| <p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Cesium 137</p> <p>B. Cesium 137</p> <p>C. Cobalt 60</p> | <p>7. Chemical and/or physical form</p> <p>A. Sealed Sources (Amersham X.8, X.9, CDC-91, CDC-808, CDC-810, CDC.700, CDC.711M, CDC.800, CDC.93, CDC.PE2, CKC.PI, CKC.P4, Gamma Ind. VDHP; NEN NER-570, Type-375; Ohmart A-2096, A-2102, A-5771; IPL Models 225, A3402, HEG-137; 3M 4D6L, 4D6P, 4F6S,4F6ST, and TN 57157C)</p> <p>B. Sealed Sources (3M Models 4F6S and 4P6N and USRC Dwg. Lab-710)</p> <p>C. Sealed Sources (Tracer Lab Model R-31)</p> | <p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>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</p> <p>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</p> <p>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</p> |
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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   |
| D. Cesium 137   | D. Sealed Sources (ICN Model Nos. 375 or 76149)   | 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 |
| E. Strontium 90                                       | E. Sealed Sources (Amersham Model SIF.D2)   | 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. Nickel 63  | F. Foil or plated sources in detector cells (IPL NER-004R; Prosentry-IMS, HP 6890, )  | 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. Americium 241                                      | G. Sealed Sources (Amersham AMN.17, AMN.18, AMN.19, CVN.1, CVN.2, CVN.3, CVN.4, CVN.5; Gammatron AN-HP; Frontier Technology FTC Model 10 series, or FTC Model 100 series) | G. 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 |
| H. Cesium 137   | H. Sealed Sources (CPN Model CPN-131)   | H. 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   |
| I. Americium 241                                      | I. Sealed Sources (CPN Model CPN-131) | I. 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 |

9. Authorized use:

- A. and E. To be used, for measuring properties of materials and/or controlling industrial processes, in Ohmart, Tracerlab, Kay Ray, ICN, TN, Measurex and/or Ronan 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.
- B. For use in custom built devices, as described in application dated December 21, 1993, for materials measurements.
- C. and D. For calibration of licensee's portable survey meters.
- F. For use in electron capture detector cells in gas chromatography units and mass spectrometers that are distributed under a specific license issued by the U. S. Nuclear Regulatory Commission or any Agreement State.
- G. For use in Radiation Monitoring Devices, Inc. Model 200 series gauge to measure glass content of materials.
- H. and I. In Campbell Pacific Nuclear Company Model No. MCM-2 and MC Series Portaprobe portable gauging devices for measuring physical properties of materials.

CONDITIONS

10. Licensed material may be used or stored only at the licensee's facilities located seven miles west of Parkersburg, West Virginia at 8480 State Route 892 (DuPont Road), Washington, West Virginia and at the Belle plant site located at 901 West DuPont Ave, Belle, West Virginia.

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11. Licensed material shall be used by, or under the supervision of, R. F. Bonar, D. L. Bloomer, D. M. Rexroad, A. J. Playtis, S. A. Middleton, C. R. Plantz, M.D. Boggs, or J. B. Wiseman.
12. The Radiation Safety Officer for this license is Richard F. Bonar.
13. 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.
14.
  - 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.
  - 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.



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15. Sealed sources or source rods containing licensed material shall not be opened or sources removed from source holders or detached from source rods or gauges by the licensee, except as specifically authorized.
16. 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.
17. A. Each gauge 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.
18. A. Installation, initial radiation surveys, relocation, or removal from service, of devices containing sealed sources shall be performed only by, R. F. Bonar, D. L. Bloomer, D. M. Rexroad, A. J. Playtis, S. A. Middleton, C. R. Plantz, M. D. Boggs and/or J. B. Wiseman, in accordance with procedures specified in application dated December 21, 1993, or by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- B. Maintenance and repair of devices, installation and replacement of sealed sources listed in subitems 6.B., 7.B., 8.B., and 9.B. shall be performed only by, R. F. Bonar, D. L. Bloomer, D. M. Rexroad, A. J. Playtis, S. A. Middleton, C. R. Plantz, M. D. Boggs, and/or J. B. Wiseman, in accordance with procedures specified in application dated December 21, 1993, or by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- C. Maintenance and repair of devices and installation, replacement, and disposal of sealed sources shall be performed only by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
19. 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 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.



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20. 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.
21. The licensee shall assure that the shutter mechanism, for each device 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.
22. 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.
23. Any cleaning, maintenance, or repair of the portable gauges 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.
24. A. If the licensee uses a portable gauge with the 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. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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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 December 21, 1993 (ML052200125)
  - B. Application dated December 8, 2003 (ML033460307)
  - C. Letter dated April 29, 2005 (ML051450084)



For the U.S. Nuclear Regulatory Commission

Date December 13, 2006By **Original signed by Sattar Lodhi, Ph.D.**Sattar Lodhi, Ph.D.  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406