



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

June 2, 2008

Docket No. 030-03859  
Control No. 142302

License No. 07-00455-27

Robert J. Bristow  
Site Administration Manager  
E. I. du Pont de Nemours & Co., Inc.  
Experimental Station E322/327A  
P. O. Box 80322  
Wilmington, DE 19880-0322

SUBJECT: E. I. DUPONT DE NEMOURS & CO., INC., LICENSE AMENDMENT,  
CONTROL NO. 142302

Dear Mr. Bristow:

This refers to your license amendment request. Enclosed with this letter is the amended license.

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, Academic, and Industrial Uses of Nuclear Material**; then **Regulations, Guidance, and Communications**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

Thank you for your cooperation.

Sincerely,

***Original signed by Stephen Hammann***

Stephen Hammann  
Health Physicist  
Commercial and R&D Branch  
Division of Nuclear Materials Safety

R. Bristow  
E. I. du Pont de Nemours & Co., Inc.

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Enclosure:  
Amendment No. 27

cc:  
Keith A. Swain, Radiation Safety Officer

R. Bristow  
E. I. du Pont de Nemours & Co., Inc.

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**SUNSI Review Complete: SHammann**

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NAME	SHammann /SGH/						
DATE	6/2/08						

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**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.

<p style="text-align: center;">Licensee</p> <p>1. E. I. du Pont de Nemours &amp; Co. Inc. Experimental Station E322/327A</p> <p>2. P.O. Box 80322 Wilmington, DC 19880-0322</p>	<p>In accordance with the application dated April 7, 2008,</p> <p>3. License No. 07-00455-27 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration Date: September 30, 2011</p> <hr/> <p>5. Docket No. 030-03859</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Iron 55</p> <p>B. Cadmium 109</p> <p>C. Americium 241</p> <p>D. Americium 241</p> <p>E. Nickel 63</p>	<p>7. Chemical and/or physical form</p> <p>A. Sealed source (Texas Nuclear DWG No. 696-696782)</p> <p>B. Sealed source (AEA Models CUC.D1 and CUC.P1; IPL Model XFP-3)</p> <p>C. Sealed source (AEA Models AMCL, AMC.P4 and AMRB102219; IPL Model XFB-4; NRD Model A-001)</p> <p>D. Sealed source (Amersham Model AMM.4)</p> <p>E. Plated foils (QSA Global Model NBCD; Isotope Products Laboratories Model NER-004P)</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> <p>D. 500 nanocuries per source and 2.5 microcuries total</p> <p>E. Not to exceed 18 millicuries per source or 180 millicuries total</p>
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## 9. Authorized use:

- A. through C. To be used for sample analysis in TN Technologies Series 9200 and Niton XLi Series, or equivalent x-ray fluorescence analyzers that have been registered either with NRC under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with an NRC or Agreement State specific license authorizing distribution to persons specifically authorized by an NRC.
- D. For calibration of licensee's equipment.
- E. To be used for sample analysis in compatible gas chromatography 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.

  
CONDITIONS

10. Licensed material may be used or stored at the licensee's facilities located at Chestnut Run Plaza, 4417 Lancaster Pike, Wilmington, Delaware, and may be used at temporary job sites of the licensee anywhere in the United States where the U. S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material, including areas of exclusive Federal jurisdiction within Agreement States.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the Federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

11. Licensed material shall be used by, or under the supervision and in the physical presence of Keith A. Swain, Michael B. Ohm and Nicole D. Walsh, or individuals who have received the training described in the application dated March 27, 2001, and designated in writing by the Radiation Safety Officer.
12. The Radiation Safety Officer (RSO) for this license is Keith A. Swain.

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13. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed 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 contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.
- D. 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.
- E. 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.
- F. Tests for leakage and/or contamination, including leak test sample collection and analysis, 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.
- G. Records of leak test results shall be kept in units of microcuries and shall be maintained for five years.
14. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. 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 five 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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16. Any cleaning, maintenance, or repair of the analyzers that requires removal of the source from the analyzer shall be performed by Donald F. Frank, or individuals who have received the training described in the application dated March 27, 2001, and have been designated in writing by the Radiation Safety Officer, or by other persons specifically licensed by the U. S. Nuclear Regulatory Commission or an Agreement State to perform such services.
17. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
18. 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 March 27, 2001 [ML010960566]

For the U. S. Nuclear Regulatory Commission

Date June 2, 2008

By Original signed by Stephen Hammann  
 Stephen Hammann  
 Commercial and R&D Branch  
 Division of Nuclear Materials Safety  
 Region I  
 King of Prussia, Pennsylvania 19406