



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

June 20, 2006

Docket No. 03006652  
Control No. 138832

License No. 47-00260-02

Michael Boyd  
Radiation Safety Officer  
Union Carbide Corporation  
A Subsidiary of The Dow Chemical Company  
3200 Kanawha Turnpike  
South Charleston, WV 25303

SUBJECT: UNION CARBIDE CORPORATION, LICENSE AMENDMENT, CONTROL NO.  
138832

Dear Dr. Boyd:

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.

This license has been amended such that the amount of the material on the license no longer requires financial assurance as specified in 10 CFR 30.35. The original of financial assurance documents will be returned to you under separate correspondence.

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 **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 8:00 p.m. EST, Monday through Friday (except Federal holidays).

M. Boyd  
Union Carbide Corporation

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Thank you for your cooperation.

Sincerely,

***Original signed by Dennis R. Lawyer***

Dennis R. Lawyer  
Health Physicist  
Commercial and R&D Branch  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 50

DOCUMENT NAME: E:\Filenet\ML061780320.wpd

**SUNSI Review Complete: DLawyer**

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NAME	DLawyer /DRL1/							
DATE	06/20/2006							

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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. Union Carbide Corporation A Subsidiary of The Dow Chemical Company</p> <p>2. 3200 Kanawha Turnpike South Charleston, WV 25303</p>	<p>In accordance with the letter dated May 9, 2006,</p> <p>3. License number 47-00260-02 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date February 29, 2016</p> <hr/> <p>5. Docket No. 03006652 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Hydrogen 3</p> <p>B. Nickel 63</p> <p>C. Nickel 63</p> <p>D. Cadmium 109</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Foils or Plated Sources (Bristol-Myers Squibb Medical Imaging, formerly Dupont Pharmaceutical Corporation Model NER-004 or NER-004P)</p> <p>C. Foils or Plated Sources (U.S. Radium Model No. LAB 508-3, New England Nuclear Model No. NER-004, Amersham Model No. NBC)</p> <p>D. Sealed Sources (Amersham Corp. Model No. CUC.D1, Isotope Products Model No. XFB Series 3204 and 3205, North American Scientific Model IND 1602, New England Nuclear Model No. NER-467Capsule LE66, New England Nuclear Model No. NER-465, Amersham Corp. Model No. CUCP. 1)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 250 millicuries</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. 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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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
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03006652

Amendment No. 50

## 9. Authorized use:

- A. Possession and storage only as residual contamination.
- B. Possession and storage only of MSA Model TD serial # 007 filled ion spectrometer.
- C. To be used for sample analysis in Varian] Model No. Vista/6000 Series or 3000 Series 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.
- D. To be used for sample analysis in Niton Model No. XL Series X-Ray Fluorescence 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 only at the licensee's facilities located at Technology Park, 3200 Kanawha Turnpike, South Charleston, West Virginia and South Charleston Plant, 437 MacCorkle Avenue, South Charleston, West Virginia.
- 11. Licensed material shall be used by, or under the supervision of, Michael Boyd, Ezra Chambers, Phil Gaarenstroom, Brian Proper, Kim Smith, or Chuck Staley.
- 12. The Radiation Safety Officer for this license is Michael Boyd.
- 13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of sealed 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.

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- 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, 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.
- G. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
15. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
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. Maintenance, repair, cleaning, replacement, and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
18. 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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19. 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. Letter dated August 1, 2005 (ML052230229)
  - B. Letter dated October 28, 2005 (ML053140078)



For the U.S. Nuclear Regulatory Commission

Date June 20, 2006By **Original signed by Dennis R. Lawyer**Dennis R. Lawyer  
Commercial and R&D Branch  
Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406