

MATERIALS LICENSE

Amendment No. 02

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.

"OFFICIAL RECORD COPY"

In accordance with application dated
November 6, 1985,

3. License number 37-19533-01 is amended in
its entirety to read as follows:

4. Expiration date December 31, 1991

5. Docket or
Reference No. 030-17840

Licensee
1. Union Carbide Corporation
Bushy Run Research Center
2. R.D. #4, Mellon Road
Export, Pennsylvania 15632

6. Byproduct, source, and/or
special nuclear material

A. Carbon 14
B. Hydrogen 3
C. Sulfur 35
D. Krypton 85

E. Nickel 63

7. Chemical and/or physical
form

A. Any
B. Any
C. Any
D. Sealed sources

E. Foils or
plated sources

8. Maximum amount that licensee
may possess at any one time
under this license

A. 200 millicuries
B. 200 millicuries
C. 100 millicuries
D. Not to exceed 20
millicuries per source
E. Not to exceed 15
millicuries per source

9. Authorized use

A. through C. Research and development as defined in Section 30.4(q) of 10 CFR Part 30.
D. For use in aerosol discharge devices
E. For use in gas chromatography devices for sample analysis

CONDITIONS

10. Licensed material shall be used only at Bushy Run Research Facility, R.D.#4, Mellon Road, Export, Pennsylvania.
11. Licensed material shall be used by, or under the supervision of, Marilyn J. Tallant, Daniel L. Geary or George W. Klein.
12. Licensed material shall not be used in or on human beings.
13. A(1) Any sealed source(s) or detector cell(s) specified in Item(s) 6.E. shall be tested for leakage and/or contamination at intervals not to exceed 6 months. Any source or detector cell received from another person which is not accompanied by a certificate indicating that a test was performed within 6 months before the transfer shall not be put into use until tested.

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License number

37-19533-01

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030-17840

Amendment No. 02

(13. continued)

CONDITIONS

- (2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source or detector cell is exempt from such leak tests when the source or detector cell contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
- B. Any sealed source or detector cell in storage and not being used need not be tested. When the source or detector cell is removed from storage for use or transfer to another person, it shall be tested before use or transfer.
- C. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the source or detector cell shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety and Safeguards Branch, 631 Park Avenue, King of Prussia, Pennsylvania 19406. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.
- D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
14. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.203(a)(1), of 10 CFR Part 20, the licensee is hereby authorized to label detector cells and cell baths, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols without a color requirement.
15. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from detector cells by the licensee.
16. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 2 years from the date of each inventory.

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SUPPLEMENTARY SHEET**

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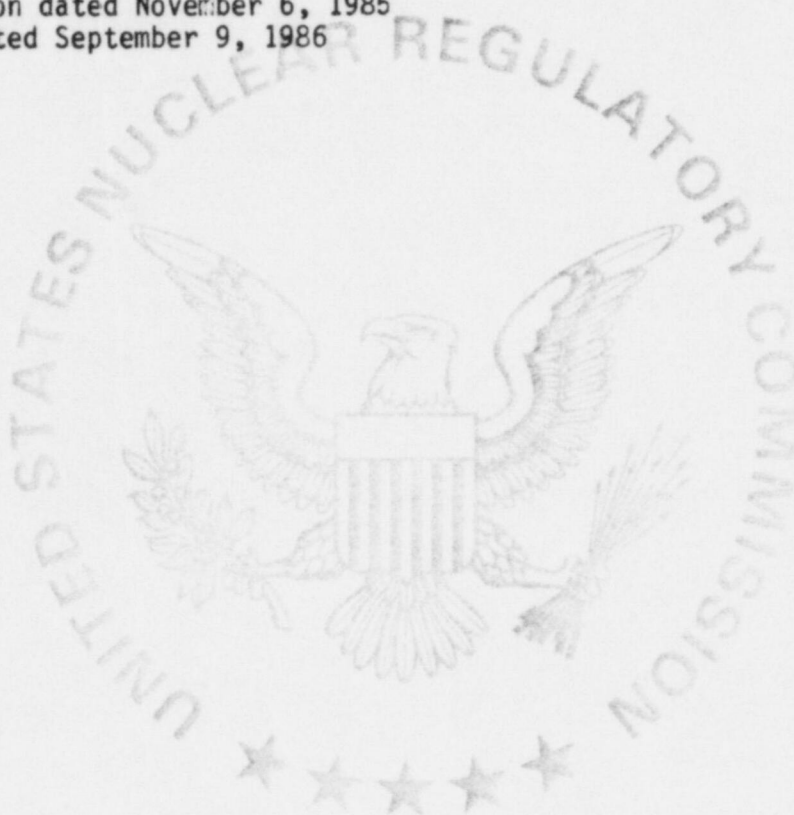
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(continued)

CONDITIONS

17. 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 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 November 6, 1985
- B. Letter dated September 9, 1986



For the U.S. Nuclear Regulatory Commission

Original Signed By:

John D. Kinneman

Date DEC 29 1986

By

Nuclear Materials Safety and
Safeguards Branch, Region I
King of Prussia, Pennsylvania 19406