

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.

| | |
|--|---|
| <p>Licensee</p> <p>1. Union Carbide Corporation Technical Center</p> <p>2. Bldg. 740 P.O. Box 8361 South Charleston, West Virginia 25303</p> | <p>In accordance with the application dated May 17, 1999</p> <p>3. License number 47-00260-02 is renewed in its entirety to read as follows:</p> <p>4. Expiration date: August 31, 2005 (Extended)</p> <p>5. Docket No. 030-06652</p> |
| <p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material, except alpha emitters with atomic numbers 1 through 83 inclusive</p> <p>B. Americium 241</p> <p>C. Hydrogen 3</p> <p>D. Carbon 14</p> | <p>7. Chemical and/or physical form</p> <p>A. Any sealed source registered pursuant to the requirement of 10 CFR 32.210</p> <p>B. Any sealed neutron source registered pursuant to the requirements of 10 CFR 32.210</p> <p>C. Any</p> <p>D. Any</p> <p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 01.1 terabecquerels (300 curies) total</p> <p>B. 925 gigabecquerels (GBq) (25 curies) total</p> <p>C. 9.25 GBq (250 millicuries)</p> <p>D. 27.75 GBq (750 millicuries)</p> |

9. Authorized Use:

180055

A. & B. For possession, storage and/or use in the following:

- (1) Research and development as defined in 10 CFR 30.4(q).
- (2) Maintenance, repair, installation, removal and replacement of sealed sources, operation testing, and servicing of gauging devices including the performance of initial radiation surveys and leak testing of sealed sources for the Union Carbide Corporation (UCC) (South Charleston Technical Center, other UCC locations and UCC temporary job sites).
- (3) In gas chromatographs for sample analysis.
- (4) Instrument calibration for the UCC and others.
- (5) Field analysis of level of density for the UCC.
- (6) Testing steel vessels for carbon buildup (Am-241 only) for the UCC.

C. & D. For possession, storage and/or use in research and development as defined in 10 CFR 30.4(q).

90722 Information in this record was deleted
PDR ADUCK 03006652
C PDR in accordance with the Freedom of Information
Act, exemptions 6

2007-0179

D-14

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-00260-02Docket or Reference Number
030-06652

Amendment No. 46

CONDITIONS

10. A. Licensed material may be used at the Union Carbide Corporation, South Charleston Technical Center, Kanawha Turnpike, South Charleston, West Virginia.
- B. Licensed materials in Sub-Items 6A and B may also 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.
11. Licensed material shall be used by, or under the supervision of, individuals designated by the licensee's Radiation Safety Committee, Michael L. Green, Chairman.
12. The Radiation Safety Officer for this license is Michael L. Green.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
- E. Sealed sources need not be leak tested if:
- (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 3.7 megabecquerels (MBq) (100 microcuries) of beta and/or gamma emitting material or not more than 0.37 MBq (10 microcuries) of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, 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 or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

47-00260-02

Docket or Reference Number

030-06652

Amendment No. 46

13. F. The leak test shall be capable of detecting the presence of 185 becquerels (Bq) (0.005 microcurie) of radioactive material on the test sample. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. If the test reveals the presence of 185 Bq or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test results are known with the U.S. Nuclear Regulatory Commission, Region II ATTN: Chief, Nuclear Materials/Licensing Branch, Division of Nuclear Materials Safety, 61 Forsyth Street, SW, Suite 23T85, Atlanta, GA 30303-8931. The report shall specify the source involved, the test results, and corrective action taken.
- G. 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. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperature from exceeding that specified by the manufacturer and approved by NRC or an Agreement State.
15. Each portable nuclear gauge shall have a lock or inter-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, storage, or when not under the direct surveillance of an authorized user.
16. Each gauge shall be tested for the proper operation of the on-off mechanism and indicator, if any, at no longer than 6 month intervals or at such longer intervals as specified by the manufacturer and approved by NRC or an Agreement State.
17. 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.
18. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
19. The licensee shall operate each gauge within the manufacturer's specified temperature and/or environmental limits such that the shielding and shutter mechanism of the source holder are not compromised.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-00260-02Docket or Reference Number
030-06652**Amendment No. 46**

20. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
21. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
22. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.
23. The licensee shall assure that the shutter mechanism 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 gauge is obtained to incorporate the device manufacturer's recommendations.
24. This license does not authorize commercial distribution of licensed material.
25. The licensee shall not use licensed material in human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.
26. Pursuant to 10 CFR 20.2004 and 10 CFR 20.2005, the licensee is authorized to dispose of licensed material by incineration provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table 2, 10 CFR Part 20.
27. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for responding to a release of licensed material.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-00260-02Docket or Reference Number
030-06652**Amendment No. 46**

28. 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.

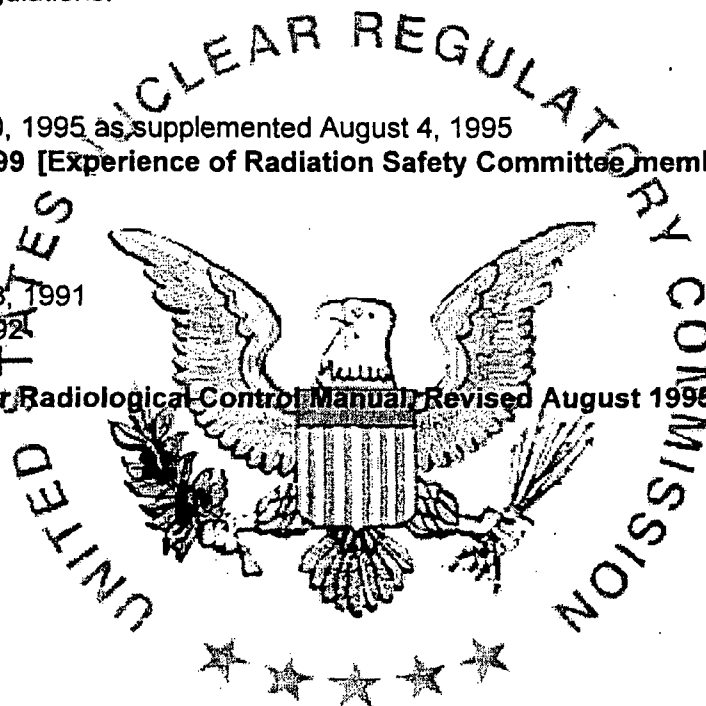
A. Application dated

- (1) February 20, 1995 as supplemented August 4, 1995
- (2) May 17, 1999 [Experience of Radiation Safety Committee members]

B. Letters dated:

- (1) December 3, 1991
- (2) May 12, 1992

C. Technical Center Radiological Control Manual Revised August 1995, amended May 1999



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

DAVID J. GOLLINS

DATE JUL 22 1999

BY

Region II, Division of Nuclear Materials Safety
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

July 23, 1999

Union Carbide Corporation
ATTN: Steve W. Drake
Director
South Charleston Technical Center
P.O. Box 8361
South Charleston, West Virginia 25303

SUBJECT: TRANSMITTAL AND EXPLANATION OF AMENDMENT TO LICENSE NO. 47-00260-02 (REFERENCE CONTROL NO. 258405; DOCKET NO. 030-06652)

Dear Mr. Drake:

Enclosed please find Amendment No. 46 to your NRC materials license. Changes to the license are printed in **BOLD** typeface. We have included your information about the Radiation Safety Committee membership as part of your commitments to the NRC in License Condition 28.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify this office (ATTN: Ms. Diane Heim at (404) 562-4723) so that we can provide appropriate corrections and answers.

Note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR 19, "Notices Instructions and Reports to Workers: Inspection and Investigations"; 10 CFR 20, "Standards for Protection Against Radiation"; and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
 - a. when an authorized user or Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or
 - b. when the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).

3. In accordance with 10 CFR 30.36(d) and/or license condition, notify NRC, promptly, in writing, and request amendment or termination of the license.
 - a. when you decide to terminate all activities involving materials authorized under the license; or
 - b. when you decide to terminate licensed activities in a separate building or outdoor area identified on your license.
4. Request and obtain a license amendment before you:
 - a. change Radiation Safety Officer;
 - b. order byproduct material in excess of the amount, or a different radionuclide or form other than authorized on the license;
 - c. add to or change the areas of use or address (or addresses) of use identified in the license application or on the license.
 - d. change ownership of your organization.
5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. Transfer of licensed materials must be consistent with 10 CFR 30.41, 40.51 or 70.42, as applicable. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signature on the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a Notice of Violation, or imposition of a Civil Penalty, or an order suspending, modifying or revoking your license as specified in the most current version of the "General Statement of Policy and procedures for NRC Enforcement Actions," NUREG-1600. Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken against those who do not achieve the necessary attention to detail and standard of compliance expected of licensees.

Union Carbide Corporation

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Thank you for your cooperation.

Sincerely,

Original signed by D.J.C.

David J. Collins, License Reviewer
Division of Nuclear Materials Safety

Enclosures: 1. Amendment No. 46
License No. 47-00260-02
2. NRC Form 313

| | | | | | | | |
|-----------|---------------------|--------------------|--------|--------|--------|--------|--------|
| OFFICE | RII:DNMS | RII:DNMS | | | | | |
| SIGNATURE | <i>[Signature]</i> | <i>[Signature]</i> | | | | | |
| NAME | DJCollins | MSLesser | | | | | |
| DATE | 7/23/99 | 7/23/99 | 7/ /99 | 7/ /99 | 7/ /99 | 7/ /99 | 7/ /99 |
| COPY? | YES (NO) | (YES) NO | YES NO | YES NO | YES NO | YES NO | YES NO |

OFFICIAL RECORD COPY

DOCUMENT NAME: G:\DNMS\COVLTR\258405tl.djc



UNION CARBIDE CORPORATION
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

Nuclear Materials Licensing Section
US NRC, Region II
61 Forsyth St., SW.
Atlanta, GA 30323-3415

May 14, 1999
Lic. No. 47-00260-02

To whom it may concern:

We are requesting that our USNRC License Number 47-00260-2 be amended to change the members of the Radiation Safety Committee.

- Mr. Jay Brubaker is retiring and will be replaced by Mr. Terry Hanning as management representative.
- Mr. Phil Johnson has changed assignments and will be replaced by Mr. W. T. Schoolcraft as the purchasing representative.
- Mr. K. B. Gasaway has been transferred to another site and is not being replaced.

The Radiation Safety Committee will now consist of:

- | | |
|-------------------------|---------------------------------|
| • M. L. Green, Chairman | Radiation Safety & Applications |
| • T. E. Hanning | Management |
| • W. K. Becher | Applications |
| • W. T. Schoolcraft | Purchasing |
| • M. A. Patel | Industrial Hygiene |

Their training and experience are on the following pages.

I have updated our site Radiation Control Manual, making minor revisions to content and format. Two copies are attached for your file.

A check in the amount of \$760.00 is enclosed for the fee for amending a category 3L license.

If you have any questions about this please call me at (304) 747-5314.

Yours truly,

Michael L. Green
Rad. Safety Officer

258405

NRC FORM 313.

(6-93)

10 CFR 30, 32, 33
34, 35, 36, 39 and 40

U. S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120
EXPIRES 6-30-96

APPLICATION FOR MATERIAL LICENSE

214636

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0189

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,
SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW
MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
811 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8084

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S.
TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

RADIOACTIVE MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION V
1450 MARIA LANE
WALNUT CREEK, CA 94596-5368

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

☐
☒
☐

- A. NEW LICENSE
B. AMENDMENT TO LICENSE NUMBER 47-00260-02
C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

Union Carbide Corp.
So. Chas. Technical Center
P.O. Box 8361
So. Charleston, WV 25303

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

3200 Kanawha Turnpike
So. Charleston, WV 25303

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Michael L. Green

TELEPHONE NUMBER

(304) 747-5314

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

| | |
|--|---|
| 5. RADIOACTIVE MATERIAL a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time. | 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED. |
| 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE: | 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS. |
| 9. FACILITIES AND EQUIPMENT. | 10. RADIATION SAFETY PROGRAM. |
| 11. WASTE MANAGEMENT. | 12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY <u>3L & 3N</u> AMOUNT ENCLOSED: <u>760.00</u> |
| 13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF. WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION. | |

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Steve W. Drake, Director

SIGNATURE

DATE

5/17/99

FOR NRC USE ONLY

| | | | | | |
|-------------|---------|--------------|-----------------|--------------|----------|
| TYPE OF FEE | FEE LOG | FEE CATEGORY | AMOUNT RECEIVED | CHECK NUMBER | COMMENTS |
| | | | \$ | | |
| APPROVED BY | | | | DATE | |

258405

SCHEDULE OF MATERIALS FEES—Continued

(See footnotes at end of table)

| Category of materials licenses and type of fees ¹ | Fee ^{2,3} |
|--|--------------------|
| L. Licenses of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of this chapter for research and development that do not authorize commercial distribution: | |
| Application—New license | \$5,400. |
| Amendment | \$760. |
| M. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for research and development that do not authorize commercial distribution: | |
| Application—New license | \$1,800. |
| Amendment | \$620. |
| N. Licenses that authorize services for other licensees, except: | |
| (1) Licenses that authorize only calibration and/or leak testing services are subject to the fees specified in fee Category 3P; and | |
| (2) Licenses that authorize waste disposal services are subject to the fees specified in fee Categories 4A, 4B, and 4C: | |
| Application—New license | \$2,000. |
| Amendment | \$500. |
| O. Licenses for possession and use of byproduct material issued pursuant to Part 34 of this chapter for industrial radiography operations: | |
| Application—New license | \$4,300. |
| Amendment | \$680. |
| P. All other specific byproduct material licenses, except those in Categories 4A through 9D: | |
| Application—New license | \$730. |
| Amendment | \$340. |
| 4. Waste disposal and processing: | |
| A. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of contingency storage or commercial land disposal by the licensee; or licenses authorizing contingency storage of low-level radioactive waste at the site of nuclear power reactors; or licenses for receipt of waste from other persons for incineration or other treatment, packaging of resulting waste and residues, and transfer of packages to another person authorized to receive or dispose of waste material: | |
| License, renewal, amendment | Full Cost. |
| Inspections | Full Cost. |
| B. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of packaging or repackaging the material. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material: | |
| Application—New license | \$2,500. |
| Amendment | \$520. |
| C. Licenses specifically authorizing the receipt of prepackaged waste byproduct material, source material, or special nuclear material from other persons. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material: | |
| Application—New license | \$2,200. |
| Amendment | \$220. |
| 5. Well logging: | |
| A. Licenses for possession and use of byproduct material, source material, and/or special nuclear material for well logging, well surveys, and tracer studies other than field flooding tracer studies: | |
| Application—New license | \$3,400. |
| Amendment | \$820. |
| B. Licenses for possession and use of byproduct material for field flooding tracer studies: | |
| License, renewal, amendment | Full Cost. |
| 6. Nuclear laundries: | |
| A. Licenses for commercial collection and laundry of items contaminated with byproduct material, source material, or special nuclear material: | |
| Application—New license | \$6,400. |
| Amendment | \$1,000. |
| 7. Medical licenses: | |
| A. Licenses issued pursuant to Parts 30, 35, 40, and 70 of this chapter for human use of byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices: | |
| Application—New license | \$3,500. |
| Amendment | \$390. |
| B. Licenses of broad scope issued to medical institutions or two or more physicians pursuant to Parts 30, 33, 35, 40, and 70 of this chapter authorizing research and development, including human use of byproduct material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices: | |
| Application—New license | \$3,800. |
| Amendment | \$710. |
| C. Other licenses issued pursuant to Parts 30, 35, 40, and 70 of this chapter for human use of byproduct material, source material, and/or special nuclear material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices: | |
| Application—New license | \$1,800. |
| Amendment | \$450. |

63 FR 31840

258405



UNION CARBIDE CORPORATION
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

Nuclear Materials Licensing Section
US NRC, Region II
61 Forsyth St., SW.
Atlanta, GA 30323-3415

May 14, 1999
Lic. No. 47-00260-02

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- | | |
|-------------------------|---------------------------------|
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| • T. E. Hanning | Management |
| • W. K. Becher | Applications |
| • W. T. Schoolcraft | Purchasing |
| • M. A. Patel | Industrial Hygiene |

Their training and experience are on the following pages.

I have updated our site Radiation Control Manual, making minor revisions to content and format. Two copies are attached for your file.

A check in the amount of \$760.00 is enclosed for the fee for amending a category 3L license.

If you have any questions about this please call me at (304) 747-5314.

Yours truly,

Michael L. Green
Rad. Safety Officer

W. K. BECHER (5/99)

| TYPE OF TRAINING | WHERE TRAINED | DURATION OF TRAINING | ON THE JOB | FORMAL COURSE |
|--|---|---|-------------------------|-------------------------|
| a. Principles and practices of radiation protection | Electric Corp. Westinghouse CGR Medical Corp. Union Carbide Corp. Training for RPO USAF Keesler AFB | 4 years 5 years 80 hours 2 weeks | Yes Yes Yes No | Yes No Yes Yes |
| b. Radioactivity measurement standardization and monitoring techniques and instruments | Electric Corp. Westinghouse CGR Medical Corp. Union Carbide Corp. Training for RPO USAF Keesler AFB | 4 years 5 years 80 hours 2 weeks | Yes Yes Yes No | Yes No Yes Yes |
| c. Mathematics and calculations basic to the use and measurement of radioactivity | Electric Corp. Westinghouse CGR Medical Corp. Union Carbide Corp. Training for RPO USAF Keesler AFB | 4 years 5 years 80 hours 2 weeks | Yes Yes Yes No | Yes No Yes Yes |
| d. Biological effects of radiation | Electric Corp. Westinghouse CGR Medical Corp. Union Carbide Corp. Training for RPO USAF Keesler AFB | 4 years 5 years 80 hours 2 weeks | Yes Yes Yes No | Yes No Yes Yes |

EXPERIENCE

| ISOTOPE | MAXIMUM AMOUNT | WHERE EXPERIENCE GAINED | DURATION OF EXPERIENCE | TYPE OF USE |
|------------------|----------------|-------------------------|------------------------|-----------------------|
| Co ⁶⁰ | Curies | Westinghouse Electric | 4 yrs. | Medical |
| Co ⁶⁰ | Curies | CGR Medical Corp. | 5 yrs. | Medical |
| Cs-137 | Curies | Union Carbide Corp. | 22 yrs. | Density & Level Gauge |
| Am-241 Be | Curie | Union Carbide Corp. | 22 yrs. | Carbon Block Meas |

William (Bill) T. Schoolcraft

No formal training or experience with radioactive materials. The sole purpose for setting on the committee is to provide a direct link between the Committee and the Purchasing Department. Current responsibilities include processing purchase orders for radioactive materials controlled by this license.

UCC Employment History

1974-1977 Clerk/Advanced Clerk/Group Leader in the TOPS Data Control group.

1977-1978 Demand reporting analyst Information Technology area.

1978-1982 Systems Analyst/Program Analyst in the Information Technology area assigned to the project to implement TOPS Plastic and Package Chemical modules.

1982-1984 Systems Analyst/Program Analyst for the SUI Division.

1984-1987 Systems Analyst for the TOPS Data Control Group.

1986-1992 Supervisor of TOPS Data Control Inventory area.

1992-1994 Systems Analyst TOPS Data Control Group.

1996-1998 Manager Tops Data Control.

1998- Purchasing Agent.

Skills

Supervisory, analytical, experience with personal computers and programming languages such as ASIST and PI-1.

Terry E. Hanning
[REDACTED]
[REDACTED]

Office 304-747-5903
[REDACTED]

06/24/99

Mr Hanning has no experience in working with radioactive materials. His function on the Radiation Safety Committee is the management representative.

EDUCATION

West Virginia University (Marshall University) College of Graduate Studies, South Charleston, WV
MS Chemical Engineering [REDACTED]

West Virginia (University) Institute of Technology, Montgomery, WV
BS Chemical Engineering [REDACTED]

REGISTRATION

Registered Professional Industrial Hygienist (RPIH)
Association of Professional Industrial Hygienists (APIH) Registry Number: 05000898.

EXPERIENCE

Union Carbide Corporation, Technical Center, South Charleston, WV

1996 to present

Group Manager - Aquatic Fate and Effects, HSE Project Review, Industrial Hygiene, Nuclear Radiation, and Packaging Engineering Technologies.

1992 to 1996

Senior Staff Engineer/Principal Engineer - Conducted Corporate HSE Audits throughout the corporation. Led Process Hazard and Risk Assessment (PHRA) review teams at chemical operating facilities.

1986 to 1992

Staff Engineer - Served as the health engineer reviewer on various projects. Led Process Hazard Assessment (PHA) review teams at chemical operating facilities. Conducted Operational Health Surveys and Laboratory Safety Health Surveys.

1981 to 1986

Senior Engineer - Served as a chemical process design engineer in Hydrocarbons Engineering.

1975 to 1981

Engineer/Advanced Engineer - Served as an environmental engineer on various projects. Also served as Primary Recruiter on various college campuses.

1974

College Summer Hire - Supported Distribution Engineering on various projects and initiatives.

ORGANIZATIONAL AFFILIATIONS

Member of the American Institute of Chemical Engineers.
Member of the Association of Professional Industrial Hygienists.
Member of the American Industrial Hygiene Association
Member of the American Conference of Governmental Industrial Hygienists.

PUBLICATIONS

Generic Exposure Assessment Guide, Chemical Manufacturer's Association, 1999.
Respiratory Protection Guidance Document, Chemical Manufacturer's Association, 1998.

AUXILIARY EDUCATIONAL ACTIVITIES

Seminars

Professional Management, American Management Association, 1997.
Coaching Skills for Managers and Supervisors, Fred Pryor Resources, 1996.
Professional study in EHS Auditing Skills and Techniques at the Arthur D. Little Environmental, Health, and Safety Training Institute, Cambridge, Massachusetts, 1994.
Incident Investigation and Problem Solving Techniques: "Root Cause Analysis", Apollo Associated Services, 1993.
HAZWOPER Refresher, NUS Corporation, 1992.
Industrial Hygiene Instrumentation, University of Wisconsin, 1991.
Radiation Protection, Union Carbide Corporation, 1990.
System Reliability Engineering and Risk Assessment, JBF Associates, Inc., 1989.
Industrial Ventilation, University of North Carolina at Chapel Hill, 1988.
Applied Industrial Toxicology, American Institute of Chemical Engineers, 1987.
Industrial Hygiene Fundamentals, American Institute of Chemical Engineers, 1986.

Professional Faculty

Adjunct Faculty, West Virginia University (Marshall University) College of Graduate Studies, 1994 and 1999.

PROPRIETARY INFORMATION

NOTICE

THE ATTACHED DOCUMENT CONTAINS OR IS CLAIMED TO CONTAIN PROPRIETARY INFORMATION AND SHOULD BE HANDLED AS NRC SENSITIVE UNCLASSIFIED INFORMATION. IT SHOULD NOT BE DISCUSSED OR MADE AVAILABLE TO ANY PERSON NOT REQUIRING SUCH INFORMATION IN THE CONDUCT OF OFFICIAL BUSINESS AND SHOULD BE STORED, TRANSFERRED, AND DISPOSED OF BY EACH RECIPIENT IN A MANNER WHICH WILL ASSURE THAT ITS CONTENTS ARE NOT MADE AVAILABLE TO UNAUTHORIZED PERSONS.

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Terry E. Hanning

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PUBLICATIONS

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Respiratory Protection Guidance Document, Chemical Manufacturer's Association, 1998.

Terry E. Hanning

Office 304-747-5903

06/24/99

EXEMP

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AUXILIARY EDUCATIONAL ACTIVITIES

Seminars

Professional Management, American Management Association, 1997.
Coaching Skills for Managers and Supervisors, Fred Pryor Resources, 1996.
Professional study in EHS Auditing Skills and Techniques at the Arthur D. Little
Environmental, Health, and Safety Training Institute, Cambridge, Massachusetts,
1994.
Incident Investigation and Problem Solving Techniques: "Root Cause Analysis",
Apollo Associated Services, 1993.
HAZWOPER Refresher, NUS Corporation, 1992.
Industrial Hygiene Instrumentation, University of Wisconsin, 1991.
Radiation Protection, Union Carbide Corporation, 1990.
System Reliability Engineering and Risk Assessment, JBF Associates, Inc., 1989.
Industrial Ventilation, University of North Carolina at Chapel Hill, 1988.
Applied Industrial Toxicology, American Institute of Chemical Engineers, 1987.
Industrial Hygiene Fundamentals, American Institute of Chemical Engineers,
1986.

Professional Faculty

Adjunct Faculty, West Virginia University (Marshall University) College of
Graduate Studies, 1994 and 1999.

Supplement to USNRC Form 313

May 1999

USNRC License 47-00260-02

Union Carbide Corp., Technical Center, So. Charleston, WV 25303

M. A. Patel

Mr. Patel is a Certified Industrial Hygienist. He earned a B.S. in Biology and Chemistry in [redacted] an M.S. in Biochemistry in [redacted] and a Masters of Science in Public Health in [redacted] from the University of Michigan. He has successfully completed a 40 hour Union Carbide Class in radiation safety. He is currently the site Industrial Hygienist.

This is to acknowledge the receipt of your letter/application dated 5/14/99, and to inform you that the initial processing, which includes an administrative review, has been performed.

6/23/99
DATE

- ☒ There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.
- ☐ Please provide to this office within 30 days of your receipt of this card:

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Sincerely,