

R073-1

DRAFT INSPECTION REPORT FORM

1. Name and address of licensee  
Union Carbide Corp.  
South Charleston / West Va.

2. Date of Inspection, 5/25/73

3. Type of Inspection R-3

4. License number(s), docket number (s), number and date of last amendment for each license. Category and Priority of each licensee.  
47-260-2 (Thru Amend No 27 dtd 1/7/72)

5. Date of previous inspection 9/28-29/70

6. Proprietary information  
None

7. Scope of inspection if other than routine  
Routine

8. Participants (Licensee representatives and titles, State representatives, etc.)  
G.M. Benzey, Radiological Health Specialist  
J.H. Bryubaker, Physicist  
R.V. Sosley, Group Leader - chairman, Isotope Committee  
B.W. DuVall, RPO  
C.R. Landfried, Alt RPO

9. Management Interview (Information required for N/C cases)  
The inspection findings were discussed with R.V. Sosley, chairman - Isotope Committee. Explained there were no items of noncompliance noted during the inspection.

10. Action and Date: Letter to Licensee \_\_\_\_\_  
AEC-591 Clear   
AEC-591 N/C \_\_\_\_\_

11. Recommend reinspection date \_\_\_\_\_

12. [Signature] 5/25/73  
Inspector Date of Report

[Signature] 6/19/73  
Reviewer Date of Review

- 13. Inspection Summary (Including violations and safety items, and status of previously reported violations and safety items, etc.)

Last inspection - close  
 This inspection - close

- 14. Summary of Licensed Program (Kind of program, number of people, rate of use or quantities on hand, places and frequency of use, type, quantity and use as authorized, etc.)

Evaluation, development, installation & testing of gaging equipment.  
 Evaluation involves studies of services in their primary job.  
 Actually install gages in field. Gages in field held under separate licenses.  
 wipe tests done under separate license & wipe samples sent to this office per contract.  
 Scaled sources obtained from Abbott, Nuclear-Chicago, K-Ray, Ind. Nuclear, Esotop  
 Products, Monsanto, S.M., David Atomic  
 Records of receipts & transfers maintained.

- 15. Organization and Administration (Management organization, RSO, authorities and responsibilities, authorized users, qualifications, supervision, etc.)

Isotope Committee - see enclosure #1  
 RPO: B. L. DuVal - see back of page #1  
 Organization - see back of page #1

Inventory - see enclosure #2

- 16. Facilities (Use facilities, storage facilities, control of access, control devices and alarms, etc.)

Bldg 747 consist of research, development areas. Also storage compound (2). Restricted areas. Lock & key control "Users"  
 Control keys

sources not removed from original source holders.

- 17. Equipment (Devices utilizing licensed mat'l, monitoring instrumentation, special equipment as glove boxes, hoods, handling tools, respirators, etc.)

Variety of radiation survey meters

3 - Eberline E-520, Survey meter, 0-2.0 r/hr 5 scale  
 one checked as portable.

18. Radiological Safety Procedures (Written operating and emergency procedures, availability of procedures, license and regs, training, Form AEC-3, etc.)

Written procedures entitled "Technical Center Encapsulated  
Radionuclide Source Procedures" dtd. 1/1/69  
See folder for copy

Form AEC-3 posted as required

19. Personnel Monitoring and Exposure to External Radiation (Type of monitoring, range of exposures, supplier, period worn, exposure history, etc.)

FD & PD routinely worn by all personnel directly involved in  
work with radioactive materials.  
FD services provided by Landauer on a 2 week rotational basis  
Equivalent Form AEC-5 used total 230 mm. Next 30 mm. Next 5"  
Records maintained. Highest quantity total 541.0-200 KV.  
PD used on special occasions. Victorian Reg. 541.0-200 KV.  
Records not maintained

20. Exposure of Employees to Airborne Radioactive Mat'ls (Method of evaluation, type of samples, radioisotopes, records, bioassay, etc.)

None

21. Effluents to Unrestricted Areas (Types, source, measurements, flow rates, applicable MPC, analytical procedures, environmental samples, etc.)

None

22. Disposals (Methods, typical quantities, etc.)

None

23. Miscellaneous Surveys, Evaluations and Records (External radiation levels, contamination levels, leak tests, etc.)

Area survey made when ever personnel work with or enter a storage area involving gauges.

Records of separate gauges & area evaluations are maintained & were reviewed.

24. Special License Conditions

All sealed sources leak tested within 6 mo. intervals

Holders wiped & counted by one of "users"

Records maintained

Last recent dtd. Jan. 31, 1973

Records show  $< 0.005 \mu\text{Ci}$

25. Posting and Labelling

Blk. 747 - posted CR-11 with L symbol

All containers labeled CR-11 with L symbol; Also isotope, quantity & date

Storage area posted CRA with symbol

26. Independent Measurements (Type, results, comparison to licensee results etc.)

Rad. levels extending into unrestricted area  $< 0.6 \text{ mR/hr}$

All areas accessible to personnel  $< 5.0 \text{ mR/hr}$

Highest reading noted  $5.0 \text{ mR/hr}$  (directly above & next to gauges in storage)

27. Operations Observed

None

28. Incidents, Overexposures, Theft or Loss, Equipment Malfunction (Those not described elsewhere should be reported here.)

Since 9/70, No leaking, No loss, No malfn. of a H. or S. nature

29. Other Information or Continuation from Previous Paragraphs

None



UNION CARBIDE CORPORATION  
CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, W. VA. 25303

RADIOACTIVE MATERIALS COMMITTEE

Mr. R. V. Sealey <i>Ph.D. Physics Group Leader, Special Inst. Dev. Group</i>	Chairman
Dr. B. W. DuVall, <i>Ph.D. in Physics</i>	Radiation Protection Officer
Miss Patricia Hudgins	Purchasing
Mr. N. H. Ketcham	Industrial Hygiene
Mr. C. R. Landfried	Alternate Radiation Protection Officer
Dr. R. L. Meeker	R&D
Mr. B. L. Murray	South Charleston
Mr. R. E. Peele	Institute
Mr. Fred Williams	Industrial Hygienist

5-25-73

*Enclosure #1*

UNION CARBIDE CORPORATION  
 CHEMICALS AND PLASTICS  
 ENGINEERING  
 SOUTH CHARLESTON, WEST VIRGINIA

MEMORANDUM

March 20, 1973

To: See Attached Distribution List

From: B. W. DuVall  
 C. R. Landfried

Subject: Radioactive Materials Summary, South Charleston Technical Center

The radioactive materials listed herein are under the control of Union Carbide's South Charleston Technical Center. All sources which require a license are covered by a United States Atomic Energy License (numbers 47-260-2, 47-260-6 or 47-260-9) issued to Union Carbide's South Charleston Technical Center. Information concerning specific details, such as size and location, of any particular source is available from the radiation protection officers, B. W. DuVall or C. R. Landfried.

*Inventory*  
 3/20/73

		<u>Encapsulated</u>		
	<u>Isotope</u>	<u>Number</u>	<u>Total Activity</u>	<u>Activity Range</u>
-2	Cesium 137	79	38,639.06012 millicuries	0.00001 to 2000 mCi
	Radium 226	36	40.7051369 millicuries	0.0000129 to 10 mCi
-7	Americium 241	2	950.0001 millicuries	0.0001 to 950 mCi
-2	Strontium 90	8	2090.000008 millicuries	0.0000076 to 1000 mCi
-2	Cobalt 60	4	1.0011879 millicuries	0.000015 to 1 mCi
-6	Nickel 63	2	15.00022 millicuries	0.00022 to 15 mCi
-6	Tritium	7	1870 millicuries	220 to 300 mCi

Miscellaneous (Chlorine 36, Barium 133, Carbon 14 and Cadmium 109) total of 5 sources with total activity of less than 0.001 mCi.

*Enclosure #2*

Unencapsulated

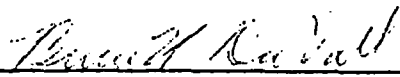
<u>Isotope</u>	<u>Total Activity</u>
- 6 Carbon 14	188.740285 millicuries total of labeled compounds
- 6 Chlorine 36	41 millicuries total of labeled compounds
- 6 Tritium	100 millicurie total of labeled compounds
- 6 Sulphur 35	<1 millicurie

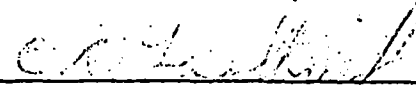
Summary of all Radioactive Materials

Union Carbide's Technical Center has a total of 143 encapsulated radioactive sources with a total activity of 43,605.76778 millicuries.

The total activity of all unencapsulated radioactive material at the South Charleston Technical Center is 289.780285 millicuries.

RADIATION PROTECTION OFFICERS

  
\_\_\_\_\_  
Dr. B. W. DuVall

  
\_\_\_\_\_  
C. R. Landfried

BWD/CRL/ut

October 16, 1972

DISTRIBUTION LIST

Dr. N. R. Andrawes	Bldg. 740-4201
Dr. D. H. Hirsh	740-4324
Ms. Patricia Hudgins	2000-1152
Mr. N. H. Ketcham	770- 440
Mr. C. R. Landfried	740-1326
Dr. R. L. Meeker	740-4318
Mr. B. L. Murray	48- 216
Mr. R. E. Peele	2- 35
Mr. R. V. Sealey	740-3418
Mr. F. A. Woods	740-3422
Mr. Fred Williams	791- 23

Mr. Beattie DeBord  
W. Va. State Industrial Hygiene Bur.  
151 11th Avenue, South Charleston, W. Va.