

Office Memorandum • UNITED STATES GOVERNMENT

TO : Curtis A. Nelson, Director, Division
of Inspection, Washington

FROM : S. R. Sapirie, Manager
Oak Ridge Operations Office

SUBJECT: COMPLIANCE INSPECTION REPORTS

SYMBOL: MI:HJM

DATE: June 14, 1957

Enclosed are compliance inspection reports covering activities of the following byproduct material licensees:

<u>Licensee</u>	<u>License No.</u>
Dr. D. C. Walther Houma, Louisiana	17-1444-1
Bristol Tennessee High School Bristol, Tennessee	41-1901-1
Bristol Memorial Hospital Bristol, Tennessee	41-2252-1
<u>Carbide and Carbon Chemicals Company</u> South Charleston, West Virginia	47-260-1 <u>47-260-2</u>
St. Lukes Hospital Bluefield, West Virginia	47-1093-1
Golden Clinic & Memorial Hospital Elkins, West Virginia	47-1278-1

In connection with the above licenses it should be noted that the Carbide and Carbon Chemicals Company, South Charleston, West Virginia, has used the services of Oak Ridge National Laboratory for waste disposal in one instance. Future use of the ORNL facility is planned if the need arises.

Instrumentation available to the license issued to St. Lukes Hospital, Radiology Department, Bluefield, West Virginia, consists of a Jordan Radector, which is a high range instrument. It is considered that such an instrument is not altogether suitable for a small medical program since it does not lend itself to monitoring minor low level spills which may occur.

Leo Dubinski
for S. R. Sapirie

Enclosure:
Inspection Reports as Listed (in dup.)

A-3

UNITED STATES ATOMIC ENERGY COMMISSION
Operations Office
~~Oak Ridge~~

June 7, 1957

Licensee: Carbide & Carbon Chemicals Company
License No. 47-260-2

Category of User: ~~I. I~~ (Technical Non-compl

It is recommended that:

(a) Inspections (not) be scheduled every:

3 months; 6 months; 1, 2, 3, 4, 5 years

with the following qualification(s):

(b) Surveys (10 CFR 20.201 (b) (not) be required by AEC regulation or license provision every

1, 2, 3, 6, 12 months

with the following qualification(s):

NOT APPLICABLE

Instructions: Circle either the word "not" or appropriate number under (a) and (b) above. Attach to front of Inspection Report.

20. Three radiation survey instruments in operable condition were in current use. Additional instrumentation is available from other departments. Instruments on hand were:

1 Victoreen Ion Chamber Model 275A - 0-2.5 r/hr
2 Tracerlab Survey Meters, Beta-Gamma - 0-25 mr/hr

21. At the time of the inspection, the following radioactive materials were on hand:

In Storage Vault:

1 - 100 millicurie Cs¹³⁷ source
1 - 1 microcurie Sr⁹⁰ source
2 - 100 millicurie Co⁶⁰ sources
50 milligrams Radium - needle form

Sources In Use

4 - 200 millicurie Cs¹³⁷ gauges - Bldg. 429
3 - 100 millicurie Cs¹³⁷ gauges - Bldg. 176
1 - 100 millicurie Cs¹³⁷ gauge - Bldg. 600
1 - 100 millicurie Cs¹³⁷ gauge - Bldg. 706
Total - 9 sources, 1.3 curies of Cs¹³⁷

The Sr⁹⁰ source did not exceed the amount allowed under a general license; however, the Co⁶⁰ did exceed the generally licensed amount. It was pointed out that under Part 30 a license was required to possess the Co⁶⁰. Mr. Rogers stated that he did not know if the company had a license for Co⁶⁰ and that he had no use for the material and that he intended to send it to Oak Ridge for disposal. A check of Isotopes Extension's files upon return to Oak Ridge showed no license or authorization for Co⁶⁰ at the South Charleston plant.

22. Density gauges in need of repair are returned to the manufacturer. Instruments connected to the gauges are repaired by plant personnel only after the source holders have been removed and stored. Gauges are not opened by plant personnel.

III. STORAGE AND WASTE DISPOSAL

23. Radioactive materials not in use are stored in a small room inside the base of the power house stack. This room provides an area remote from personnel and is used only for this purpose. The material is contained in a locked wooden cabinet lined with 1/2 inch of lead. The two keys are in the possession of Mr. Rogers and Mr. Barnhill. Materials in use are contained in Ohmart density gauge Models SHRM and SHRH which have been approved by the Licensing Branch of the Isotopes Extension.
24. All waste from this program will be disposed of through Oak Ridge National Laboratory facilities. To date only one such disposal has been made. This consisted of one container of 100 millicuries of Cs¹³⁷ and one container of 125 millicuries of Cs¹³⁷ both in liquid form and were shipped on 11-16-55.

IV. CONTROLLED AREA

25. Direct reading pocket dosimeters were worn and exposure records maintained from 10-2-53 until 12-2-55. The maximum exposure received during this period was 30 mr in one week and as a result recording was discontinued for lack of significant readings. Pocket dosimeters are currently worn as a precautionary measure but records are not kept.

Readings will be recorded if the expanding program results in exposures exceeding 25% of the permissible weekly dose.

26. Surveys of the density gauges and storage area are conducted monthly by the Instrument Division with a written detailed report of the results sent to the Radioactive Materials Committee. These reports are kept on file in the Instrument and Safety Divisions.
27. The gauges and storage cabinet were posted with 2" gum tape marked with the conventional radiation symbol in the prescribed colors but lacking the proper wording. The storage area was posted with a large metal sign explaining the contents and hazards involved but lacking the proper colors and symbol. It was pointed out that according to the Licensee's survey report made on 5-21-57 radiation fields up to 15 mr/hr existed near three gauges and that such measurements require posting as a radiation area. Mr. Rogers explained that the posting was done prior to publication of Part 20 but that all posting would be reviewed and brought into conformance with current regulations.
28. Records are maintained on material ordered, received and disposed of with additional reports required each time any material is moved to a new location. The exact location of all material in use is made known to the shift supervisors, Safety Division and Fire Department. Inventory and survey records are kept on a monthly basis.

UNITED STATES ATOMIC ENERGY COMMISSION

Compliance Inspection Report

1. Name and address of Licensee
Carbide & Carbon Chemicals Company
Special Instrumentation Department
Instrument Division
South Charleston 3, West Virginia
Attention: L. J. Rogers

2. Date of Inspection
May 23, 1957

3. Type of Inspection
Routine

4. 10 CFR Part(s) Applicable
20 and 30

5. License (or Permit) No(s). and Expiration date(s)

Number	Exp. Date	Number	Exp. Date
47-260-2	August 31, 1958		

License Issued: August 15, 1956 Amended: December 14, 1956

6. Scope of License(s) and Permit

- 600 millicuries of Cesium¹³⁷. Five sealed sources as LAB-236 to be used in Ohmart Corporation density gauges - four 100 millicurie sources in Model SHRM source holders and one 200 millicurie source in Model SHRH source holder.
- 3 curies of Cesium¹³⁷. Twenty-five sealed sources as LAB-236 to be used in Ohmart Corporation density gauges - twenty 100 millicurie sources in Model SHRM source holders and five 200 millicurie sources in Model SHRH source holder.

7. Special Conditions and Limitations of License(s) or Permit

- Byproduct material is to be used by, or under the supervision of, the individual named above.
- Compliance with 10 CFR 20.
- Byproduct material must be encapsulated prior to possession by licensee.
- Licensed material shall be used as sealed sources for purpose stated and sources shall not be altered or opened. Sources shall not be combined to exceed maximum number of millicuries authorized in a single source.

8. Inspection Findings

The program utilizing byproduct material obtained under this license is well planned and conducted within adequate facilities. Records are maintained of all phases except personnel monitoring. Pocket dosimeter records were kept until 1955 but discontinued after that date for lack of significant readings. Posting was abundant but not of the prescribed type. Additional posting of several locations as Radiation Areas was required because the radiation exceeded 5 mr/hr. A maximum of 20 mr/hr existed in these areas. The Licensee possessed 200 millicuries of unlicensed Co⁶⁰ that will be licensed or disposed of. Waste disposal is through AEC's Oak Ridge facilities. No health hazard exists as a result of the non-compliances.

9. Items of Non-compliance

20.203 (a), (b), (e), and (f)

30.3

10. Give date of last previous inspection: Isotopes Extension Representative, 12/5/55

11. Is "Company Confidential" information contained in this report? No
(Specify page(s) and paragraph(s).)

Distribution:

Division of Inspection
Washington (2)

William W. Peery
William W. Peery
Donald C. Hubbard
Donald C. Hubbard
(Inspector)
H. J. McAlduff
Approved by: H. J. McAlduff

Oak Ridge Operations Office
(Operations Office)

June 7, 1957
(Date report prepared)

If additional space is required for any numbered item above, the continuation may be extended to the reverse of this form using head to foot format, leaving sufficient margin at top for binding, identifying each item by number and noting "Continued" on the face of form under appropriate item.

RECOMMENDATIONS SHOULD BE SET FORTH IN A SEPARATE COVERING MEMORANDUM

DETAILS

I. GENERAL INFORMATION

12. On May 23, 1957, an inspection was made of the facilities and activities of the Special Instruments Department of Carbide & Carbon Chemicals Company at the Licensee's South Charleston, West Virginia, plant. The inspection was conducted by W. W. Peery and D. C. Hubbard, Inspection Division, OROO.
13. The Company representatives interviewed and furnishing information contained in this report were:

Mr. L. J. Rogers, Chairman of the Radioactive Materials Committee
Mr. J. R. Barnhill, Head of the Safety Division

II. ORGANIZATION AND PROCEDURES

14. The licensee company is a subsidiary of Union Carbide Corporation, New York, New York.
15. The use of byproduct material by the Instrument Division of the Special Instrumentation Department is limited to fixed Cs¹³⁷ sources contained in Ohmart Corporation density gauges. The program was started in May, 1954, using small amounts of byproduct material and has gradually increased with time.

The Instrument Division assumes responsibility for any radioactive material stored in the central storage vault and for maintaining all radiation detection instruments used in the South Charleston plant.

16. A well planned program for controlling all radioactive materials used within the plant is conducted. The program provides written regulations, with the Radioactive Materials Committee assuming responsibility for seeing that the regulations are carried out in the prescribed manner. The rules formulated and published by the Committee set forth: (1) responsibility of the Committee, (2) procurement procedures, (3) storage requirements, (4) method of disposal, and (5) departmental responsibilities for the Safety, Fire, Instruments, Purchasing, Shipping, and Using departments.

17. The Radioactive Materials Committee consists of the following members:

Mr. L. J. Rogers - Chairman, Electrical Engineer - Instrument Department
Dr. F. G. Young - Physicist - Research Department
Dr. J. F. Haskin - Chemist - Development Department
Mr. W. J. Skraba - Chemist - Research Department
Mr. J. R. Barnhill - Head of Safety Division

The Committee serves as a liaison group for any problems which might arise in connection with the use of byproduct material. In addition, it must review and approve all programs proposing to use such material and any requisitions for shipments of isotopes.

18. Oral safety instructions have been given to personnel working in areas containing density gauges.
19. Mr. Rogers serves as Radiological Safety Officer for the Instrument Division and is assisted by other technical personnel when additional information or help is needed. Mr. Rogers has had over five years' training and actual experience in using Co⁶⁰, Radium and Cs¹³⁷. Mr. Rogers stated that he was familiar with Part 20.

License No. 47-260-2

C+CCC, South Charleston, W. Va.

I. Inspection Preparation

Clerical

Professional

30 min. 5-3-57 }
30 min. 5-23-57 }
CWP
Cite

1 hr.

1

1

II. (a) Travel Time During Working Hours

3 3 hrs

5-20-57

(b) Travel Time During Non-working Hours

1 1 hrs

5-24-57

III. Inspection Time (date and hours)

3 3 hrs

5-23-57

IV. Report Preparation

Clerical

4 hours 6-3-57 CWP

1 hr. 6-4-57 W
15 mi 6-4-57 W
2 hrs. 45. mile - 6/7/57 - nls

4

3

By _____

Completion Date _____