TANDARD FORM NO. 84

Office Memorandum • UNITED STATES GOVERNMENT

TO : Curtis A. Nelson, Director, Division of Inspection, Washington **DATE:** June 14, 1957

- **FROM** : S. R. Sapirie, Manager Oak Ridge Operations Office
- SUBJECT: COMPLIANCE INSPECTION REPORTS
- SYMBOL: MI:HJM

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

Licensee	License No.
Dr. D. C. Walther Houma, Louisiana	17-1444-1
Bristol Tennessee High School Bristol, Tennessee	41-1901-1
Bristol Memorial Hospital Bristol, Tennessee	Ы-2252-1
Carbide and Carbon Chemicals Company South Charleston, West Virginia	47-260-1 <u>17-260-2</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.) NITED STATES ... TOMIC ENERGY COMM SION Operations Office Oak Ridge

June 7, 1957

Licensee:

License No.

Carbide & Carbon Chemicals 47-260-2 Company

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):

(Ъ)

Surveys (10 CFR 20.201 (b) (not) be require by AEC regulation or license provision even

1, 2, 3, 6, 12 months

with the following qualification(s):

Instructions:

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

Page 3

Carbide & Carbon Chemicals Company South Charleston, West Virginia License No. 47-260-2

- 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-Oamma - 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

Tc	ote	al -	9 sources,	1.3 c	uries of	Cs137	
1	-	100	millicurie	Cs137	gauge	- Bldg.	706
1		100	millicurie	Cs137	gauge	- Bldg.	6 00
3	-	100	millicurie	Ca137	gauges	- Bldg.	176
4	-	200	millicurie	Ca137	gauges	- Bldg.	429

The Sr^{90} source did not exceed the amount allowed under a general license; however, the Co^{60} did exceed the generally licensed amount. It was pointed out that under Part 30 a license was required to possess the Co^{60} . Mr. Rogers stated that he did not know if the company had a license for Co^{60} 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. STO AGE AND WASTE DISPOSAL
 - Radioactive materials not in use are stored in a small room inside 23. 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.
 - All waste from this program will be disposed of through Oak Ridge National Laboratory facilities. To date only one such disposal has 24. been made. This consisted of one container of 100 milliouries of Cal37 and one container of 125 millicuries of Cal37 both in liquid form and were shipped on 11-16-55.

IV. CONTROLLED AREA

Direct reading pocket dosimaters were worn and exposure records main-tained from 10-2-53 until 12-2-55. The maximum exposure received 25. 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.

Page 4 Carbide & Carbon Chemicals Company South Charleston, West Virginia License No. 47-260-2

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.

Form AEC-417 (Tentative) (8-56)

UNITED STATES ATOMIC ENERGY COMMISSION

Compliance Inspection Report

<u>1.</u>	Name and address of Licensee	2. Date of Inspection
	Carbide & Carbon Chemicals Company	
	Special Instrumentation Department Instrument Division	3. Type of Inspection
	South Charleston 3, West Virginia Attention: L. J. Rogers	4. 10 CFR Part(s) Applicable
5.	License (or Permit) No(s). and Expiratio Number Exp. Date	n date(s) <u>Number</u> <u>Exp. Date</u>
	47-260-2 August 31, 1958	
6.	License Issued: August 15, 1956 Scope of License(s) and Permit	Amended: December 14, 1956
·	 600 millicuries of Cesium¹³⁷. Fi Ohmart Corporation density gauges source holders and one 200 millic 	ve sealed sources as LAB-236 to be used in s - four 100 millicurie sources in Model SHRM surie source in Model SHRH source holder.
	(2) 3 curies of Cesium ^{13?} . Twenty-fi Ohmart Corporation density gauges SHRM source'holders and five 200 holder.	ve sealed sources as LAB-236 to be used in - twenty 100 millicurie sources in Model millicurie sources in Model SHRH source
7.	 Special Conditions and Limitations of Li (1) Byproduct material is to be used individual named above. (2) Compliance with 10 CFR 20. 	cense(s) or Permit by, or under the supervision of, the
	(3) Byproduct material must be encaps	ulated prior to possession by licensee.
·	(4) Licensed material shall be used a sources shall not be altered or of exceed maximum number of millicur	s sealed sources for purpose stated and pened. Sources shall not be combined to ies authorized in a single source.
8.	Inspection Findings	
	except personnel monitoring. Focket di discontinued after that date for lack but not of the prescribed type. Addit Areas was required because the radiation existed in these areas. The Licensee p that will be licensed or disposed of.	of significant readings. Posting was abundant ional posting of several locations as Radiation on exceeded 5 mr/hr. A maximum of 20 mr/hr possessed 200 millicuries of unlicensed Co ^{OO} Waste disposal is through AEC's Oak Ridge a result of the non-compliances.
9.	Items of Non-compliance	· ·
	20.203 (a), (b), (e), and (f)	
	30•3	
	· · · · · ·	· · ·
$\frac{10.}{11}$	Give date of last previous inspection:	sotopes Extension Representative, 12/5/55
	(Specify page(s) and paragraph(s).)	William W. Parry
Dist	ribution:	William W. reery
	Division of Inspection Washington (2)	
		Approved by: H. J. McAlduff
		Usk Hidge Uperations Office (Operations Office)
		June 7, 1957 (Date report prepared)
If a to t	dditional space is required for any numbe he reverse of this form using head to foo	ered item above, the continuation may be extended of format, leaving sufficient margin at ton for
bind appr	ing, identifying each item by number and opriate item.	noting "Continued" on the face of form under

GPO 912710

Page 2

Carbide & Carbon Chemicals Company South Charleston, West Virginia License No. 47-260-2

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:

responsibility of the Committee, (2) procurement procedures,
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 Csl37. Mr. Rogers stated that he was familiar with Part 20.

C+CCC, South Charleston, W. Va. License No. 47-260-2 Inpsection Preparation I. Professional 30 min. 5-3-57 0.14 30 min. 5- 23-57 0.14 chical , hr. (a) <u>Travel Time During Working Hours</u> II. 5-20.57 3 from 5-24-57 (b) Travel Time During Non-working Hours 1. I deus III. Inspection Time (date and hours) 3 low 5.23-57 4 lows 6-3-57 Quit 3 Lens Report Preparation IV. clerical 1 m. 1 - 4 - 57 We 15 mi 1. 4- 57 10 2 hr. 45 min - 6/7/57 - 10 By Completion Date