UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION V
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BERKELEY, CALIFORNIA 94704

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August 22, 1969

H. E. Book, Senior Radiation Specialist
Region V, Division of Compliance

INSPECTOR'S EVALUATION AS PER MM 900-15
VETERANS ADMINISTRATION CENTER, WADSWORTH HOSPITAL
LOS ANGELES, CALIFORNIA - LICENSE NO. 4-181-4

The subject broad licensed medical program includes the diagnostic and therapeutic use of radioisotopes in the clinical program, as well as an active research program. The hospital is affiliated with UCLA and is currently beginning an extensive residency program. The use of licensed materials ranges from laboratory tracer work with carbon and tritium containing compounds through substantial quantities of I-125 and 131 used in the preparation of labelled materials for the research program and the production of Tc-99m from a commercially supplied milker for diagnostic purposes.

During the inspection, the licensee advised the inspector that property presently owned by the VA Center might possibly be transferred to the City of Los Angeles for development as a park. The licensee was concerned with this possible transfer of property since the land involved had been used for a number of years as a land burial site for low-level radioactive waste, as authorized by 10 CFR 20. Mr. Wetterau, the RSO, was advised that although there appears to be no statuatory restrictions concerning transfers or use of land used for low-level waste disposal in accordance with 10 CFR 20, it would appear advisable to fully inform DML in the event plans for the transfer appeared to be approaching consumation. The inspector also commented that it appeared that good public relations concerning the release of information regarding the former use of this property could well be extremely important to both the hospital and the City.

It is the inspector's opinion that the licensee's activities have not resulted in a threat to the health and safety of the licensee's patients, employees or the general public.

H. S. North
Radiation Specialist

591 Notes
North/msb
8/22/69

H S North Inspector 9/8/69
H E Book Reviewer 9/10/69

Veterans Administration Center
Wadsworth Hospital
Wilshire and Sawtelle Boulevards
Los Angeles, California

License No. 4-181-4

Introduction

1. An announced reinspection of the subject licensed program was conducted on August 11, 1969, by H. S. North, Radiation Specialist, Region V. The inspector was unaccompanied. As a result of the inspection, no items of noncompliance were noted and a Form AEC-591 reflecting these findings was issued at the conclusion of the inspection.

Exit Interview

2. Since Dr. William H. Blahd, Chairman, Radioisotopes Committee, was not present, the inspector conducted the exit interview with Mr. L. W. Wetterau, Physicist and Radiation Safety Officer for the hospital. This discussion involved two items: (1) the fact that no items of noncompliance had been noted in connection with the inspection (therefore a Form AEC-591 was issued at the conclusion) and (2) the possible transfer of government-owned VA-administered lands adjoining the hospital to the City of Los Angeles. Mr. Wetterau pointed out that certain areas on this land had been used for the disposal of low-level radioactive waste by means of burial, as authorized in 10 CFR 20. The inspector commented to Mr. Wetterau that it appeared there were no statuatory restrictions which would prohibit such a transfer, but the inspector was certain that DML and CO:HQ would be extremely interested in any such transfer of control. The inspector also

commented that, because of the unusual sensitivity associated with radioactive waste, it would probably be an excellent idea to have expert guidance in connection with news releases relating to the proposed transfer.

Inspection History

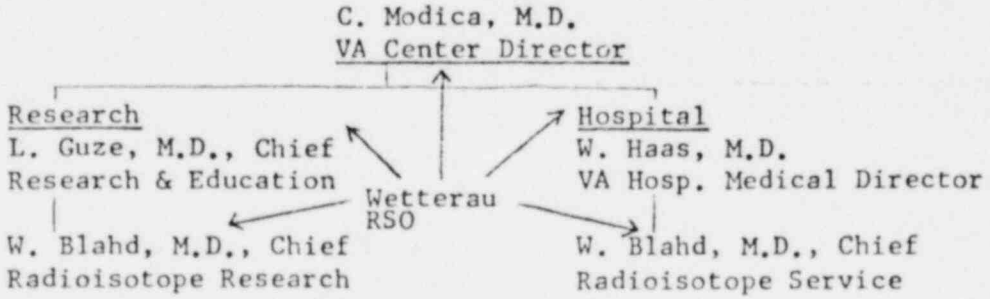
3. The subject licensed program was last inspected on September 20, 1968. At a result of that inspection, no items of noncompliance were noted and Form AEC-591 was issued confirming those findings.

Administration

4. During the course of the inspection, the inspector interviewed Mr. L. W. Wetterau, Physicist and Radiation Safety Officer, who has Center-wide responsibility in connection with the licensed programs with the exception of the teletherapy unit. The inspector also met Dr. A. Euwiler, Head of the Neurobiochemistry Research Section; Dr. J. Gambino (Ph.D.), Educational Director in charge of the resident training program; and Dr. Melvin Golden, one of the Residents in training at the hospital.

Organization

5. Mr. Wetterau stated that the licensee's organization is as follows:



6. Mr. Wetterau stated that the licensee has an Isotopes Committee which meets on call at least twice a year. Most of the committee business is carried out by telephone and mail. Membership on the committee is as follows: W. Blahd, M.D., Chief, Radioisotope Service, and Chief, Radioisotope Research, responsible for both research and clinical applications at the center; S. Dayton, M.D., Internist and Chief of Medicine at the hospital; B. Fishkin, M.D., Pathologist; L. Fred, M.D., Special Assistant to the Director for Outside Affiliations and Associate Dean for VA -UCLA Affairs, UCLA School of Medicine, acting as a training liaison officer between the University Med School and the hospital; O. True, M.D., Radiologist, Head of the Diagnostic Radiology Program, and license-identified user on the teletherapy license 4-181-10; and L. Wetterau, Physicist and Radiation Safety Officer. Mr. Wetterau commented that the following persons are ex-officio members of the committee: L. Guze, M.D., Internist Chief of Research and Education; W. Haas, M.D., VA Hospital Medical Director; C. Modica, M.D., VA Center Director.

Radiation Safety, Instruction of Personnel

7. Mr. Wetterau stated that as of July, a formal training program at the M.D. postgraduate level had been started. A total of four physicians were enrolled; however, it is planned that this enrollment will climb to between five and eight in the near future. This program is totally involved in the clinical use of radioisotopes. Mr. Wetterau stated that his in-hospital radiation safety and safe handling course continues, with an enrollment ranging from 12-14 persons/quarter. This course is primarily familiarization with good health physics

practices, the rules, regulations and the licensee's procedures. The licensee maintains a record of individuals having completed this training. Condition 21 of the license identifies statements, representations and procedures contained in applications dated January 21 and February 8, 1965. Mr. Wetterau stated that copies of these procedures are given to individuals who need them in the performance of their work as a part of the safe handling training course. Mr. Wetterau stated that there have been no changes in the procedures without the prior approval of DML except for some minor organizational and language changes. Mr. Wetterau commented that with the gradually expanding program at the hospital, it may be appropriate to consider amendment of these procedures in the near future.

Receipt and Transfer

8. Mr. Wetterau stated that there had been no exports of licensed materials. Procurement of radioisotopes requires prior approval by the Radioisotopes Committee which, for new or unusual uses, will require submission of a protocol which must be reviewed by the committee. Materials are delivered to Wetterau. Mr. Wetterau is responsible for assuring that materials ordered are received and for transferring the materials to the appropriate recipient. Stock materials, such as I-131 used in the clinical program, are acquired on the basis of standing orders. Occasional purchases are made from a GSA price list on a government purchase order. In any case, all licensed materials are delivered to Wetterau on receipt. Mr. Wetterau stated that there have been occasional small transfers of materials to hospitals in the Los Angeles area. He stated that these customarily are cases where a physician on the staff of the VA Hospital also holds an appointment

with a non-VA hospital in the area. If this individual is conducting VA-sponsored radioisotope research, the materials may be transferred to the non-VA hospital for the use of the physician provided the physician is also authorized to receive, possess and use materials under the State of California license issued to the non-VA hospital. Mr. Wetterau had records showing that materials had been delivered to Mt. Sinai Hospital under such circumstances. The records revealed the isotope, quantity, physician, hospital, hospital license number, and date of the transfer. The licensee makes from six to eight transfers per year, with total quantities ranging from 1 uCi to 10 mCi per year.

Inventory

9. The licensee had performed a physical inventory immediately prior to the inspection. A copy of the inventory is attached as Appendix A.

Use of Licensed Material

10. The subject licensed program, operating under a broad license, allows diagnostic and therapeutic aspects of clinical medicine as well as medical research on small animals and in vitro systems. In association with the clinical program, the licensee elutes Tc-99m from a Mo-Tc generator. All material eluted is checked for pyrogenicity, sterility and break-through of Mo-99. At the time of the last inspection, the licensee was doing some experimental work involving fluorine-18 for bone scans. This material was produced in the UCLA reactor; however, this reactor is currently shut down and no irradiations are being performed. On the basis of statements made by the licensee's representatives and the inspector's observations, it appears that the

licensee is using materials as authorized by the license.

Facilities and Equipment

11. The locations of use of licensed materials are as described in paragraphs 15 and 16 of the notes of the inspection conducted May 23, 1967. In the case of the rooms associated with the hot laboratory and preparation room, a new suite of offices is being built in Room 214. These facilities will provide a combination of office space and preparation and assay laboratory areas. The licensee's preparation lab and storage facilities remain unchanged from the last previous inspection. At the time of the last inspection, the licensee defined the hot laboratory, Rooms 212 and 212A in Building 114, as the restricted area. Access to these rooms is controlled by means of lock and key. The licensee's main clinical counting and scanning areas in Wadsworth Hospital have been somewhat expanded, and additional expansions are planned. The licensee has acquired a new Picker dual-probe Magnascanner with color readout. The licensee has also acquired an Ampex vidio tape recorder for use with the Pho-Gamma III Anger camera. Mr. Wetterau stated that generally the licensee's instrumentation has remained substantially the same.

Posting and Labelling

12. All areas in which licensed materials were used or stored were observed to be posted with a conventional symbol and the words "Caution or Danger - Radioactive Materials". All containers of licensed materials display the conventional symbol and the words "Caution or Danger - Radioactive Materials", identify the isotope, quantity and date of measurement of

the quantity. The licensee had posted Forms AEC-3 in all areas where individuals work with licensed materials.

Survey Program

13. The licensee performs monthly surveys of all laboratories, which include measurements of dose rates and, where applicable, wipes or surveys for removable contamination. Records of these surveys show the date, the maximum exposure in mr/hr, whether wipes were collected, with space for remarks. A separate record shows the results of the analysis of smear test samples. A review of the results of these surveys showed that the radioisotope clinic surveys range from 0.1 to 1.5 mr/hr at the storage refrigerator. This clinic is located in Room 4748 of Wadsworth Hospital. The radioisotope research area ranged from 0.2 to 0.8 mr/hr and wipes were generally taken throughout this area. The licensee's program of iodination of ACTH continues, with substantially no changes in the procedures or equipment in use. The inspector discussed with Mr. Wetterau the possible use of the uCi hr/cc concept of evaluating exposure. Mr. Wetterau said that this had been considered. A review of the records revealed the following room and stack air concentrations of I-125 and 131:

	Air Concentrations uCi/cc			
Isotope	Room Air	Stack Air	Date	Duration of Exposure or Release
I-125	7.4×10^{-9}	8.6×10^{-8}	5/20/69	3 hrs. 20 min.
I-131	4.6×10^{-9}	9.0×10^{-10}	5/20/69	3 hrs. 20 min.
I-131	4.0×10^{-8}	4.7×10^{-8}	6/9/69	45 min.
I-131	7.0×10^{-10}	1.0×10^{-10}	6/16/69	2 hrs. --

The entry for June 9, 1969 was the highest recorded concentration shown in the licensee's records. The review of these concentration levels revealed that they were substantially below the MPC's of soluble materials permitted by Columns I of Tables I and II of Appendix B, 10 CFR 20.

14. Mr. Wetterau also maintained, as a part of his survey records, special surveys of unusual occurrences. A summary of these unusual surveys revealed the following items of special interest.

October 23, 1968	A 200-uCi shipment of calcium-47 fluoride leaked into packing material. Contamination ranged from 300-700 cpm maximum. Some hand contamination resulted; however, the leakage was caught and cleaned without spread. All contamination was limited to the inside of the container.
January 14, 1969	Post-mortem on cadaver containing 8 mCi P-32 in pluro-cavity. Record and copy of notes to Funeral Director advising for appropriate handling of deceased.
February 12, 1969	3 mCi I-125 contained in a centrifuge tube fell on the floor. Approximately 75% of the material was recovered. The laboratory technician's shoes were contaminated and held for decay. The floor and centrifuge were decontaminated to background.

Personnel Monitoring

15. The licensee uses monthly film badges supplied by Radiation Detection Company. Approximately 45-50 persons are monitored on a routine basis. Badges are issued to individuals using gamma or hard beta emitting radioisotopes but not to individuals using tritium or C-14. The

licensee possesses pocket dosimeters, but they are not in routine use. The review of the results of personnel monitoring provided the following information. During second quarter 1969, the average exposure was less than 50 mr. The high exposures were received by Endow at 350 mrem and Thomas at 120 mrem. The first quarter 1969 exposures averaged less than 50 mr, with a high to Thomas of 120 mrem. Fourth quarter 1968 exposures again showed average exposures of less than 50 mr, with a high to Ashcraft of 320 mrem. Third quarter 1968 showed an average exposure of less than 75 mr, with a high to Thomas of 220 mrem. During second quarter 1969, the licensee did some extremity monitoring in the high potential exposure population. The results indicated the following quarterly exposures. Those operating the technetium milking operation showed extremity exposure of 130 and two at 230 mrem. The nurse and technicians working in the clinic showed exposures of 240, 390 and 430 mrem. Individuals carrying out the ACTH iodination showed exposures of 110 and 140 mrem.

Waste Disposal

16. Mr. Wetterau stated there is no intentional waste disposed to the sanitary sewage system. All waste is presently transferred to California Salvage Company. Historically, this licensee has disposed by burial on VA property since 1952, and approximately 50 disposals have occurred. The total material disposed by burial is approximately 1.2 Ci and was principally composed of C-14 and tritium. The last burial occurred October 28, 1968 and consisted of the following materials.

Isotope	Millicuries	Isotope	Millicuries
Tritium	5.445	Sodium-22	0.050
Carbon-14	3.350	Iron-59	0.020
Iodine-131	6.265	Molybdenum-99	2.000
Iodine-125	1.175		

These wastes were contained in the following forms and volumes: 3 gallons of liquid, 8 cubic feet of animals, two 30-gallon containers of solids, one 20-gallon container of solids, three 10-gallon containers of solids, 4 cubic feet scintillation vials, 4 cubic feet miscellaneous solids. The licensee's most recent disposals to California Salvage were as follows: one 55-gallon drum containing 80 mCi of C-14 and tritium on September 18, 1968; eight 55-gallon drums containing 13.94 mCi on February 12, 1968; and seven 55-gallon drums containing 52.3 mCi on May 22, 1969.

Leak Tests

17. The licensee performs leak tests of sealed sources. Sources leak tested include the Tracerlab Model R-30 cobalt-60 sealed source and the Tracerlab Model R-1A strontium-90 medical applicator. These sources were tested for leakage on October 2, 1968 and April 1, 1969. No removable contamination was detected.

Miscellaneous

18. Mr. Wetterau stated that there have been no unusual occurrences, no MIS administrations of radioisotopes, and that there have been no unreported incidents.

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Mr. Harry North
USAEC

DATE: Aug. 11, 1969

FROM : Radiation Safety Officer
V.A. Center, Los Angeles

SUBJECT: Radioisotopes on Hand as of This Date

^{3}H	as labeled compounds	897.175 mCi
^{14}C	" " "	33.276
^{22}Na	" " "	0.200
^{32}P	" " "	1.000
^{45}Ca	" " "	0.400
^{51}Cr	" " "	2.800
^{57}Co	" " "	0.110
^{75}Se	" " "	0.800
^{85}Sr	" " "	0.680
^{99}Mo-^{99m}Tc	Generator (8/12/69 precalibrated)	200.000
^{125}I	as labeled compounds	44.260
^{131}I	" " "	56.000
^{133}Xe	in saline	0.100
^{137}Cs	in solution	0.005
^{203}Hg		0.400
^{90}Sr	sealed eye therapy source (Tr. Lab RA-1A)	31.000 mCi
^{60}Co	sealed calibration source (Tr. Lab R-30)	0.100
^{3}H	Foils - Barber Coleman model 4168 for gas Chromat. - 4 ea @ 100 mCi =	400.000 mCi
	TOTAL =	1,668.306 mCi

L. W. Wetterau Jr.
L.W. Wetterau, Jr.