Form AEC-591
(6/1/65)

UNITED STATES ATOMIC ENERGY COMMISSION

DIVISION OF COMPLIANCE

INSPECTION FINDINGS AND LICENSEE ACKNOWLEDGMENT

1. LICENSEE	2. REGIONAL OFFICE
Veterans Administration Center Wadsworth Hospital Wilshire and Sawtelle Boulevards Los Angeles, California 90073	Region V, Division of Compliance U. S. Atomic Energy Commission 2111 Bancroft Way Berkeley, California
3. LICENSE NUMBER(S)	**4. DATE OF INSPECTION**
4-181-4	September 23, 1965

5. INSPECTION FINDINGS

☒ A. No item of noncompliance was found.

☐ B. Rooms or areas were not properly posted to indicate the presence of a RADIATION AREA. 10 CFR 20.203(b) or 34.42

☐ C. Rooms or areas were not properly posted to indicate the presence of a HIGH RADIATION AREA. 10 CFR 20.203(c) (1) or 34.42

☐ D. Rooms or areas were not properly posted to indicate the presence of an AIRBORNE RADIOACTIVITY AREA. 10 CFR 20.203(d)

☐ E. Rooms or areas were not properly posted to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(e)

☐ F. Containers were not properly labeled to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(f) (1) or (f) (2)

☐ G. Storage containers were not properly labeled to show the quantity, date of measurement, or kind of radioactive material in the containers. 10 CFR 20.203(f) (4)

☐ H. A current copy of 10 CFR 20, a copy of the license, or a copy of the operating procedures was not properly posted or made available. 10 CFR 20.206(b)

☐ I. Form AEC-3 was not properly posted. 10 CFR 20.206(c)

☐ J. Records of the radiation exposure of individuals were not properly maintained. 10 CFR 20.401(a) or 34.33(b)

☐ K. Records of surveys or disposals were not properly maintained. 10 CFR 20.401(b) or 34.43(d)

☐ L. Records of receipt, transfer, disposal, export or inventory of licensed material were not properly maintained. 10 CFR 30.51, 40.61 or 70.51

☐ M. Records of leak tests were not maintained as prescribed in your license, or 10 CFR 34.25(c)

☐ N. Records of inventories were not maintained. 10 CFR 34.26

☐ O. Utilization logs were not maintained. 10 CFR 34.27

R. F. Fish

R. F. Fish, Radiation Specialist
(AEC Compliance Inspector)

6. LICENSEE'S ACKNOWLEDGMENT

The AEC Compliance Inspector has explained and I understand the items of noncompliance listed above. The items of noncompliance will be corrected within the next 30 days.

(Date) (Licensee Representative — Title or Position)

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Rough draft 591 inspection notes 10/28/65 ch

Veterans Administration Center
Wadsworth Hospital
Los Angeles. California
License No. 4-181-4

R Inspector

Reviewer

1. An announced reinspection of the subject licensed program was conducted on September 23, 1965 by R. Fish, Region V Inspector, Division of Compliance. Mr. L. W. Wetterau, Radiation Protection Officer, represented the licensee during the entire inspection. Dr. W. H. Blahd, Chief of Radioisotope Service, was also interviewed during this visit. No representative of the State of California was present during this inspection.

2. Following completion of the inspection a verbal summary of the findings was presented to Mr. Wetterau. Dr. Blahd was informed of the findings up to the time of his interview which was about half way through the inspection. After discussing the inspection results with the Region V Senior Radiation Specialist a Form AEC-591 was issued showing no items of noncompliance were noted.

3. The Veterans Administration Center is divided into two organizations, Research and Wadsworth Hospital. Dr. Blahd serves two capacities, one in each organization. He is Chief of the Radioisotope Service at Wadsworth Hospital and also Chief of Radioisotope Research Service. In these positions Dr. Blahd reports to the Directors of each organization. Dr. J. M. Koplowitz is Dr. Blahd's assistant. Mr. L. W. Wetterau is Dr. Blahd's Administrative Assistant and in addition is the Center's Radiation Safety Officer. The Radioisotope Service staff consists of 1 registered nurse and 2 laboratory technicians. Two M.D. internists also work in the hospitals radioisotope service. Mr. Wetterau's position is funded by the Research organization. He supervises a full time chemist who prepares the radioisotope doses and a secretary who helps maintain the records.

4. The licensee has an Isotope Committee. Since the issuance of the broad license on May 4, 1965 the committee has been reorganized. The composition of the committee is as stated in the licensee's application dated January 21, 1965. In accordance with Veterans Administration rules, see Annex A, the committee met subsequent to issuance of the broad license for the purpose of reviewing and reapproving all procedures used in the past. The approved list of isotopes and their uses is attached as Annex B. One additional use has been approved since this list - use of 100 millicuries of gold-198 for the treatment of porstatic and periprostatic interstitial infiltration in prostate cancer.

5. The committee meets on a demand basis. Routine matters are disposed by correspondenc among the members. Mr. Wetterau is the committee's secretary and responsible for keeping minutes of all meetings. A copy of the VA Form 10-1152 submitted to the committee and approved is attached to the minutes. This form and attachments if present, describes the proposed use, the quantity of isotope and the persons involved.

6. In addition to the Isotope Committee, there is a Research Committee which meets every two weeks. Most of the Isotope Committee members are also members of the Research Committee. The Research Committee is responsible for reviewing and authorizing all research projects.

7. In almost all cases human use of isotopes is under the supervision of either Dr. Blahd or Dr. Koplowitz. All intravenous injections are made by a physician. All therapy doses are administered by a physician and in practically all cases it is either Dr. Blahd or Dr. Koplowitz. The Radiation Protection Officer is present during all therapy doses. The intermists are under the direct, personal supervision of either Dr. Blahd or Dr. Koplowitz for the first week or until such time as they are judged to be sufficiently trained.

8. Individual researchers are approved to use isotopes for nonhuman applications. When applying to the committee for authorization to use isotopes or modify an existing program, the researchers must identify those other persons who may be handling the isotopes. Nonhuman use of isotopes represents a small part of the subject licensed program.

9. Radiation safety responsibilities have not changed from that description contained in paragraph 11 of the report of the previous inspection made on April 18, 1963. The radiation safety manual mentioned in paragraph 11 was revised in December 1964. Mr. Wetterau said that authorized users have received a copy of the safety manual.

10. Paragraph 12 of the previous inspection report describes the licensee's system of recording receipt of material. Three notebooks are used to record the receipt of material because of the quantities and variety of isotopes being received. Attached to these notes as Annex C is the licensee's inventory of isotopes possessed under the subject license as of the inspection date. Mr. Wetterau said the following isotopes were routinely ordered.

I-131 as NaI	50 mc per week (1 shipment per mo. is sterile)
Hg-203 as neohydrin	5 mc per month
Mo-99-Tc99m	100 mc per week
P-32	25 mc per month
I-131 as thyroxine and RISA	2-5 mc per 2 weeks
Ca-47	100 uc per month
Au-198	20 mc per week
Cr-51	2 mc per month

11. Isotopes are normally used at 3 general locations in Building 114 of the Veterans Center. Research activities are conducted in the complex of rooms designated

Room 134. Isotope doses are prepared and principle isotope storage is in the area designated Room 212 and 212A. Trace amounts of isotopes are used in the area designated Room 211. Diagnostic doses are given and diagnostic measurements are made in the area designated Room 227. The whole body counter is in a separate building behind Building 114.

12. Paragraphs 14, 16, 17, 18 and 19 of the previous inspection report describes the facilities where radioisotopes are used and stored. With two exceptions these descriptions were found to be current. The complex designated Room 327 in paragraph 19 is actually designated Room 227. Also the area designated Room 134 in paragraph 18 is part of Building 114. Posting and labelling was found to be in compliance with 10 CFR 20.203 and 20.206(c).

13. Wetterau stated that a patt of the 2nd floor of Building 114 was a nursing ward. In all but special cases, persons receiving therapy doses requiring them to be hospitalized are kept in rooms on the 2nd floor of this building. According to Wetterau the nurses are given instructions for each specific therapy case. Also there is a copy of the Hospital Supplement of the Radiation Safety Program Manual at the nurses station.

14. Mr. Wetterau said he had four survey meters which he keeps in his office - two were out for repair at the time of the inspection. Two of these meters are thin, end-window GM type fabricated by Nuclear-Chicago. The other two are Nuclear-Chicago Cutie Pie type. Other radiation survey and measuring instrumentatio possessed by the licensee is described in paragraph 16 and 19 of the previous inspection report.

15. The licensee disposes radioactive waste by either transferring it to an AEC or State of California licensee or by burial in the ground. Wetterau said that they

bury small quantities of radioactive waste and those isotopes with fairly short half lives. All other waste is transferred to an authorized waste disposal firm or other AEC and/or State licensee. According to Wetterau essentially no radioactive waste is disposed via the sewer.

16. Wetterau stated they bury their waste in the same general area where they bury their other trash. This site is north of the Center's buildings and is fenced off from the rest of the center. There is also a fence around the entire Center. The radioactive waste is buried at a depth of at least 6 feet with a separate excavation made for each disposal. According to Wetterau he places the waste in the ground and remains there until the excavation is filled with dirt.

17. Records of all waste disposal are maintained by Wetterau in a bound notebook. These records were reviewed back to January 1964. A total of 7 burials were made in 1964 and 5 have been made in 1965, through September 21. The records show the date of the burial, a description of the material disposed, a list of isotopes and the quantity of each isotope. All burials were in accordance with the requirements of 10 CFR 20.304. These records also show the following transfers were made.

3-24-64	342 mc H-3 0.95 mc C-14	U. S. Nuclear
9-23-64	150 mc H-3 0,75 mc C-14	U. S. Nuclear
12-17-64	565 mc H-3 1.1 mc C-14	U. S. Nuclear
3-17-65	80 mc H-3 1.5 mc C-14	Calif. Salvage
6-23-65	160.4 mc H-3 0.54 mc C-14	Calif. Salvage
8-12-65	400 mc H-3 25 uc C-14	Calif. Salvage

18. The licensee uses film badges supplied by R. S. Landauer to monitor personnel exposures. The badges are exchanged on a monthly basis. Wetterau stated he also

had some pocket dosimeters, 0 - 200 mr, which could be used when necessary. A review of the film badge records disclosed the maximum quarterly exposure since January 1964 has been 130 mr. Most of the exposures were zero, however, there were a few in the range 50 - 100 mr/ per quarter.

19. Wetterau said he does some bioassay for tritium and carbon-14. Urine samples are counted in a Packard Tri-Carb Liquid Scintillation Spectrometer. The need for a bioassay is based on the quantities of activity being used and the process involved. All results are recordded in a bound notebook. A review of the records disclosed the maximum concentration detected was less than 0.2 microcurie/liter of urine.

20. Smear and direct reading radiation surveys are conducted on a monthly basis by Wetterau. A radiation survey is also made following each therapy dose administered. Special surveys are made as required. Air samples are taken during procedures performed in the hood located in Room 212A (Hot Laboratory). The air sampler is connected to a metal tube which draws air from the middle of the hood exhaust stack at a point where the stack attaches to the hood.

21. All survey results are recorded in a bound notebook. All radiation levels were noted be less than 1 mr/hr. Most of the smear results showed less than 100 dpm removable contamination. With the exception of a few spills all smears showed less than 400 dpm. In the case of the spills maximum smear results showed a few thousand dpm. In all spill cases the area was immediately decontaminated to $\leq$ 100 dpm. According to Wetterau some of the spills were the result of doctors being careless when giving intravenous injections containing an isotope. Air sample records show the duration of the sample, the activity present and the calculations

to determine concentration. Almost all air samples showed concentrations in the range 10^{-9} to 10^{-10} uc/cc. The maximum value, for a samples of ~ 1/2 hr duration, was 5×10^{-6} uc/cc. Air samples are taken continuously during hood operations which occur only occasionally.

22. The licensee possesses one cobalt-60 source. Also the strontium-90 eye applicator, formerly possessed under license No. 4-181-8, was listed on the subject as of May 1965. Wetterau stated that leak tests of these sources were made according to the procedure described in the application dated January 21, 1965. Since the strontium-90 source was placed pn the subject license in May, only one leak test had been conducted by Wetterau. Responsibility for leak tests belonged to the Radiology Service prior to this time. The records are kept in a bound notebook and are in terms of microcuries. The cobalt-60 source was leak tested in January and June of 1964 and March and September of 1965. Since the tests showed the source was not leaking, the licensee was not cited for exceeding the 6 month frequency on 1 occasion. Wetterau leak tested the strontium-90 eye applicator on June 9, 1965 - removable contamination was less than 0.005 microcurie. Previous tests also showed less than 0.005 microcurie removable contamination.

23. Amendment No. 50 modified Item 9.DDD to authorize scanning of plumonary embolism on 20 additional patients. Also this amended item 20 requests a report of the results of the work 6 weeks after completion. Amendment 52 modifies the license to a "broad" type with no reporting requirements. Dr. Blahd stated that some of the work described in Amendment 50 has been done. He noted that subsequent to issuance of amendment 52 additional work was done, however, the work has not been completed. Dr. Blahd stated that because Amendment 50 is no longer in effect they do not plan to make the report requested in Amendment 50. Dr. Blahd also said that he felt such a report was unnecessary becuase there are at least 10 reports

in the literature on this application. Annex D to these notes is a list furnished by Dr. Blahd of some of the references to this work appearing in the literature. Following completion of the inspection this matter was discussed with the Senior Radiation Specialist. It was felt that Amendment 52 negates the requirements of Amendment 50.

24. Wetterau stated they had not experienced any incidents or unusual situations since the previous inspection. According to Wetterau when they suspect any internal deposition regardless of its origin, they count the individual in the whole body counter.