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U. S. NAVAL HOSPITAL
ST. ALBANS L. I., N. Y. 11425

ADDRESS REPLY TO
COMMANDING OFFICER
AND REFER TO:

22/mp
6470/1
Ser: 22-64
MAR 3 1964

Mr. Eber R. Price
Assistant Director
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D.C.

Dear Sir:

In reference to your letter dated 24 February 1964 relative to non-compliance with AEC's "Standards for Protection Against Radiation", Part 20, Title 10, Code of Federal Regulations, the following corrective procedures have been done. The below statements refer to sub-headings 1, 2, 3 and 4 of your letter.

a. Radioassay of contents in the liquid storage tank was performed on 31 January 1964 using both a Nuclear-Chicago gas flow counter and a scintillation well counter. The samples were removed from the tank after an opening, provided with a closing valve, was installed into the top of the tank which allowed for adequate mixing of all contents. Sample counts with gas flow counter were 0.0004 microcuries/ml. and those from the scintillation counter were less than 0.0004 microcuries/ml. No radioactive material has been dispensed into this tank since the inspection of 24 December 1963.

b. An extensive radiation safety program has been instituted and carried out since inspection of 24 December 1963, utilizing the following corrective measures and procedures.

(1) All areas and floor spaces in the radiation controlled area where contamination was found were decontaminated by Radiacwash solution conducted 2-3 times weekly for the past 2 months with all swipe tests and survey monitoring of areas recorded and logged. Present counts received for these areas are now within the normal background range.

(2) Appropriate storage of radioactive waste for non-disposal until at least 10 half-lives have elapsed.

(3) Daily radioassay and logging of liquid contents in storage tank since 31 January 1964. This now to be conducted at weekly intervals with records maintained.

(4) Maintenance of records on all survey areas, radiation monitoring and disposal of any radioactive material when done.

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c. No definite information can be found or available to present personnel as to why the Radiological Safety Officer at the time of the alleged spill in 1962 did not inform the Radioisotope Committee of this incident, or as to why the decontamination of the affected areas was not carried out according to Section VII "Operating Procedure and General Instructions for the Radioisotope Laboratory". At present the limited areas where contamination was found have been decontaminated under present Radiation Safety Officer supervision as stated in para. b(1) above. In the future, if any such incident should occur, the Radioisotope Committee and all pertinent personnel shall be so informed and records maintained of all procedures and surveys conducted thereon.

d. In regards to Item 4 of your letter concerning sealed sources containing byproduct material, calibration and leak test on the Cobalt-60 wires were performed by the Radium Chemical Company on 17 February 1964, Test No. WA-109-64. These sources were compared to a radium standard and found to have a gamma equivalent of 11 millicuries each. The leak test showed that Wire #1 counted 0.0036 microcuries and Wire #2 counted 0.0008 microcuries. Calibration and leak test of the Strontium-90 Medical Applicator is currently being conducted by the Tracerlab Corporation. These tests will be conducted at least twice a year with records and certification that the tests have been made maintained in units of microcuries as required by license condition No. 28(D). None of the above sealed sources have been in use for the past year.

The personnel monitoring program conducted at St. Albans involves the wearing of film badges, processed every 4 weeks or less and pocket dosimeters read daily, of all personnel who are working with ionizing radiation or engaged in the handling of radioactive materials and by those entering a radioactive area.

Films for our program are obtained from the U. S. Navy Supply Depot and are of the Dupont SX-222, SN6665-531-2763 type which contain component films No. 508 and 510 for X-ray, beta and gamma radiations. Calibration curves are made from the same type film and emulsion lot number and are provided by the Bureau of Medicine and Surgery. These curves are used in conjunction with a densitometer, Weston Photographic Analyzer in the measurement of the film densities. A minimum of three pairs of unexposed control films are processed simultaneously with each batch of exposed film. The average density of the control film is subtracted from the observed density of each of the processed personnel films. The resulting net densities are then read from the calibration curve and the exposure data in rep or roentgens is obtained.

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A photodosimetry log is maintained of all exposures received. In addition, a permanent and continuous record of exposure is made by entries on Form DD-1141, Record of Exposure to Ionizing Radiation, on each individual. An annual photodosimetry report, NAVMED 1432, Personnel Exposure to Ionizing Radiation, on all personnel exposures is submitted to the Bureau of Medicine and Surgery at the end of each calendar year. In the event of an overexposure to ionizing radiation, NAVMED 1433, Personnel Overexposure to Ionizing Radiation, is forwarded to the Bureau of Medicine and Surgery as soon as possible after overexposure.

It is believed that these series of actions will bring this activity into full compliance with AEC regulations.

Sincerely yours,

J. L. YON
CAPT MC USN
Commanding Officer

Copy to:
Chief, BUMED (Code 74)