EMMA L. BIXBY HOSPITAL

818 Riverside Avenue Adrian, Michigan 49221

AREA 517 263-0711

October 15, 1982

Mr. J. R. Miller, Chief
Technical Inspection Branch
United States Nuclear Regulatory
Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Miller:

I would like to thank you and your inspection staff for the consultative assistance which resulted from your inspection of the Emma L. Bixby Hospital Radiology Department in August 1982. The inspector was very courteous and pleasant to work with and we are pleased that our Cobalt source calibrations turned out to be very close in agreement with those of the inspector's. Like yourselves, we are very committed to radiation protection for our employees and will comply with any recommendations in order to achieve and maintain a safe environment.

Historically, we have found it difficult to interpret the regulations as circulated in the Federal Register. As you are aware, we have not had an inspection since 1976 and had we known of any violations prior to the most recent inspection, they of course would have been corrected immediately.

The following plans have been drafted by Richard Taylor, M.D., Director of the Emma L. Bixby Hospital Radiology Department, in order to correct the violations cited as a result of the August 1982 survey:

(1) MEETINGS OF THE MEDICAL ISOTOPE COMMITTEE

Medical Isotope Committee meetings have been held intermittently and very informally. They have been scheduled on a quarterly basis, but when no business was planned on the agenda, in the opinion of the Radiation Safety Officer, the meetings were cancelled or the few items to be discussed were discussed in the department with some of the members of the committee being present.

In the future we will schedule and hold quarterly committee meetings and document the proceedings. Such meetings will be combined with the Radiation Safety Committee meetings.

(2) SAFETY EDUCATION

I have to apologize as I was aware of this requirement and I failed to comply. I have obtained in the past several years films and other teaching aids and have contacted and tentatively set up programs for new employee orientation, nursing orientation and have sent memos to the Security Service which have been updated annually. While I have personal opinions in regard to the significance and educational value of some of these meetings, I must admit that there is at least some value to the persons involved, and in particular the nursing service.

In the future I will comply with all educational requirements. We have obtained a video tape/slide presentation applicable to the staff of the department entitled "Protection In the Nuclear Medicine Lab." We have obtained slides regarding radiation protection from therapy sources which will be shown to both the nursing service and radiology staff. We have made arrangements with the hospital Education Department to conduct refresher courses and speak on the problem of radiation protection to not only nursing personnel but to all new employees as part of employee orientation. A meeting with the Housekeeping Department is scheduled for November 11, 1982. In the past years we have obtained from the Medical College of Ohio a twenty minute movie on occupational hazards. We will continue this practice in the future. A memo has also been circulated to the Security Service who accepts the daily radioisotope deliveries. This memo will be updated annually.

(3) RING BADGES

The nuclear medicine technologist is personally very serious and conscientious in wearing her ring badge. On the day of the inspection, it was inadvertently left at home, which we must realize happens occasionally. We can only say that she is anxious to use the ring badge when she handles and injects the pharmaceuticals and will comply.

(4) CALIBRATION SOURCES

The calibration source, Barium 132, was received in an almost outdated condition from the supplier. We did not have this source for a six month period and interpreted the rule in error. Leak tests have been performed and will be performed semi-annually as required.

(5) LINEARITY CALIBRATIONS

Although our radioisotopes are obtained daily from a registered radio-pharmaceutical corporation, we have been perform-

ing confirmation of dose with our dose calibrator on each isotope used for injection. We did not perform the linearity calibration on the equipment, but have performed a linearity calibration since the inspection and will continue to do so, as required. I would comment that our equipment is spot checked and calibrated annually by our physicists.

(6) WIPE TESTS IN THE LABORATORY

We have been performing wipe tests on a monthly basis. Now that we are aware that they are required on a weekly basis, such tests will be done as so required.

(7) SURVEYS AND RECORDS OF DISPOSAL OF RADIOACTIVE MATERIALS

We were unaware that these records needed to be developed and maintained. Such a record has been established since the survey and will be maintained.

(8) NOTIFICATION OF MIS-ADMINISTRATION

The Isotope Department is small and mis-administrations have been discussed with and handled by the Radiologist and Radiation Safety Officer who are at this point the same individual. Physicians were notified and the occurrence discussed with the Nuclear Medicine Technologist to prevent further mistakes. The mis-administrations were not yet referred to the appropriate NRC regional office because I was waiting for a meeting of the Isotope Committee to review these cases before their referral. The NRC regional office has been made aware of the mis-administrations.

(9) DISPOSAL OF RADIOACTIVE CONTAMINATED WASTE

On the day of the survey a radioactive Iodine 131 patient treated for hyperthyroidism was given a glass of water after oral ingestion of the radioactive Iodine and threw this cup in the waste basket. In the future, such cups will be handled differently and put in the radioactive waste disposal unit.

(10) REQUIREMENT FOR DRY RUNS IN THE RADIOTHERAPY DEPARTMENT

The department is small; we treat approximately fifty new therapy patients a year and there are two technologists and one radiotherapist involved. The technologists and the radiotherapist are all well aware of the necessary steps to take in the event of an emergency. In the future, we will formally review this procedure on a semi-annual basis and so document.

(11) CALIBRATION OF TELETHERAPY UNIT

Calibration is performed by an accredited radiation physicist. The physicist we use from the Medical College of Ohio

did not perform the calibration using a dosimetry system which had not been calibrated for four years. His equipment is calibrated every six months; the documentation of such calibration was not immediately available.

Again, there is no reason that we would not comply with each and everyone of the violations cited, as we recognize the importance of radiation safety to both the population in general and to our own employees. The infractions were, for the most part, a result of our lack of understanding of the requirements.

Sincerely,

Jay E. Kreuzer
Executive Vice President

Richard L. Taylor, M.D.
Director, Radiology Department

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MANAGEMENT CONTROL GUIDELINES

Emma L. Bixby Hospital

MANAGEMENT CONTROL REQUIREMENTS AS SUGGESTED BY THE NUCLEAR REGULATORY COMMISSION

A. Delineation of Duties of All Persons Involved In Licensed Activities

1. Radiation Therapy Technologists are responsible for:

   a. Treatment of radiation therapy patients and maintaining clear, concise records of daily treatment time and volume. The technologist shall position the patient with the assistance of the radiologist and maintain continued observation of the patient throughout the treatment time.

   b. They shall perform such routine calibrations of equipment as instructed, for the use of the radiation physicist.

   c. They shall maintain a deday record and daily output record with data supplied by the radiation physicist.

2. The Nuclear Medicine Technologist:

   a. Supervise single dose radioisotope ordered by the attending physician and obtain from the Radio Nuclide Pharmacy in Toledo, Ohio.

   b. The technologist will order daily and maintain radio nuclides to be utilized on a daily basis with some regards to back-up emergency doses.

   c. They shall inject nuclides utilization radiation safety precautions and properly dispose of syringes and other material.

   d. They shall maintain safety evaluations of the laboratory on a daily basis and maintain calibrations the equipment is required.

3. The Department Manager:

   a. Shall be responsible for the supervision of the daily activities of the Nuclear Medicine Technologist and the Radiotherapy Technologist and confirm the completion of required surveys and procedures. They shall report discrepencies to the Radiation Safety Officer.

4. Radiation Safety Officer:

   The Radiation Safety Officer, with the Radiation Safety Committee, shall be responsible for the overall radiation

safety precautions in the hospital and report directly to the President and the Board of Trustees.

B. In regard to the indoctrination and training of personnel, it is the responsibility of the Director of the Department of Radiology to provide indoctrination and training of nuclear medicine and radiotherapy personnel to provide services within the department. It is the primary responsibility to provide knowledge of the Nuclear Regulatory Commission regulations and awareness of license condition to the technologist.

C. Checklists have been developed by the Radiation Isotope Technologist and Nuclear Medicine Technologist and the radiation physicist regarding the required and reasonable safety precautions that are to be performed by the individual. Such a checklist will be compiled and included in a survey of radiation safety procedures by the Radiation Safety Officer at the quarterly meetings.

D. Job descriptions and safety checklists can be readily used by a Radiation Safety Officer or a similarily trained radiologist to maintain compliance and continuance of safety procedures through periods of change.

ORGANIZATIONAL CHART

Emma L. Bixby Hospital
Department of Radiology