Saint John Hospital
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June 9, 1983

R. J. Miller
Chief Materials and Safe Guard Branch
U.S. Nuclear Regulatory Commission
Region 3
799 Roosevelt Road
Glen Ellyn, Ill. 60137

RE: Saint John Hospital Nuclear Regulatory Commission
License #21-03210-01

Dear Mr. Miller:

This letter is written pursuant to the provisions of 10 CFR 2.201 which requires the licensee to submit a written response for each iten of noncompliance noted in the inspection performed on March 18, 1983 by Mr. Wayne Slawinski of your office. The following violations were identified:

1. Full body exposure of an individual to a dose in excess of 1.25 rems per calendar quarter. This exposure was received by a loaded Fletcher-suit Cesium-137 applicator because the individual thought the application was not loaded. The following corrective actions have been taken, effective June 1, 1983 to prevent future occurrences.
   a. The end caps of the applicator will only be in place when the the applicator is loaded. Therefore the status of the applicator can be determined by visual inspection.
   b. Radiation area monitors will be located in the room to alert all personnel as to the presence or absence of a radiation field.

   The cesium procedures have been revised to incorporate these changes. These revisions are given in Attachment #1.

2. Quarterly inventory of cesium sources. All cesium sources have always been inventoried on a quarterly basis. However on the inventory form it was not specifically stated that each individual source had been accounted for. This form has been revised. A copy of the new form is given in Attachment #2. This corrective action is also effective on June 1, 1983.

If further information is required we would be happy to furnish it for you.

Respectfully submitted,

Walter Nikesch PhD

Walter Nikesch, Ph.D.
Radiation Safety Officer

cc: Dennis Markiewicz, Vice-President
Dave Silwester, Assoc. Administrator
Jwong H. Ling, M.D., Radiation Therapist
John Griffin, M.D., Director of Radiology
Robert J. Sabo, Health Physicist, Michigan Dept. of Public Health

CESIUM LOADING AND UNLOADING PROCEDURES

In addition to all established precautions and procedures for handling and transporting Cesium the following procedures will be initiated immediately:

1. All end caps for the tandem part of the Fletcher suit applicators will be stored separately in the Cesium storage room.

2. The tandems will be inserted in the patients without the end caps in place.

3. After the patient is transported back to her room the end caps will be brought up along with the Cesium sources. The end caps will only be screwed on the tandem after the Cesium sources are inserted.

4. When the Cesium sources are removed the end cap shall not be put back on the applicator. The end cap will be transported down to the Cesium storage area along with the sources.

   THESE PROCEDURES ARE INSTITUTED SO THAT IT CAN BE DETERMINED BY VISUAL INSPECTION WHETHER OR NOT THE CESIUM APPLICATOR IS LOADED WITH ISOTOPE. ALL APPLICATORS HAVING AN END CAP IN PLACE ARE ASSUMED TO BE LOADED AND SHALL BE HANDLED APPROPRIATELY.

5. Two radiation area monitors will be located in the Cesium storage room. A monitor will be transported along with the Cesium to the patients room.

6. A radiation monitor will always be used for every Cesium procedure. This monitor is to be left in the room at all times when the Cesium isotope is in place.

7. After removal of the Cesium the monitor will be used to verify that all sources have indeed been removed.

   THE RADIATION AREA MONITORS DISPLAY A FLASHING RED LIGHT IN THE PRESENCE OF A RADIATION FIELD. THE STATUS OF THE MONITOR MUST BE CHECKED AFTER REMOVAL OF THE CESIUM SOURCES TO VERIFY THAT NO SOURCES HAVE BEEN LEFT IN THE PATIENT AND/OR THE ROOM. THE STATUS OF THE AREA MONITOR MUST BE CHECKED PRIOR TO REMOVAL OF THE APPLICATOR TO VERIFY THAT IT IS EMPTY.

ATTACHMENT #2

Cs-137 & TUBE SOURCES LEAK TEST

Date_____ Performed by_____

All Cesium sources were tested for surface contamination by using alcohol swabs to wipe the surfaces. The swabs were then counted in a 3-inch NaI well-multichannel analyzer scintillation system. The multichannel analyzer was calibrated to 1 KeV/channel with a Cs-137 source. For counting the swabs, the integral counts between channels 575-to-730 were used. All counts were for 30-seconds. The results are as follows:

Cs-137 Standard
Activity_____uCi Net Counts_____
0.005 uCi_____ Ave Bkg cts_____
Minimum detectable activity_____uCi

MIC Rad Sources

Source	Counts	Activity*
040	_____	_____
189	_____	_____
230	_____	_____
241	_____	_____
244	_____	_____
245	_____	_____
256	_____	_____
262	_____	_____
293	_____	_____
295	_____	_____

(continued on back)

Tube Sources

Source		Counts	Activity*
10 mg-eq	1	_____	_____
	2	_____	_____
	3	_____	_____
	4	_____	_____
15 mg-eq	1	_____	_____
	2	_____	_____
	3	_____	_____
	4	_____	_____
20 mg-eq	1	_____	_____
	2	_____	_____
	3	_____	_____
25 mg-eq	1	_____	_____
	2	_____	_____

An inventory check was performed. All tube sources described above are accounted for:

☐ YES ☐ NO

If no, action initiated:_____
_____

All mic Rad sources described on the other side of this page are accounted for:

☐ YES ☐ NO

If no, action initiated:_____
_____

*BKG activity indicates counts were with 3 standard deviations of background counts.