

THE UNIVERSITY OF CHICAGO
RADIATION PROTECTION SERVICE
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CHICAGO - ILLINOIS 60637
(312) 962-6299

November 20, 1985

B. J. Holt
Materials Licensing Section
Region III, Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Re: Control No. 79603

Dear Ms. Holt:

This is in response to your letter of November 5, 1985 concerning our pending application to amend byproduct material license 12-509-3 to allow possession and use of a blood irradiator containing up to 720 Curies cesium-137.

The answers to the specific questions raised in your letter are as follows.

1. The Committee on Radiation Hazards has approved the application from the Blood Bank for use of the subect irradiator. Radiation Protection Service will assist the blood bank in their responsibility of training their employees using the irradiator. The subjects covered will include operation of the device, function and purpose of protective features of the irradiator, their responsibility to report promptly any condition that may lead to exposure to radiation or radioactivity from the source, basic radiological units, operation of a geiger counter, function of personnel monitoring devices, and radiation exposure limits of NRC. We believe these subjects are commensurate with potential radiological health protection problems associated with the irradiator. The irradiator, it should be noted, is designed so exposure to the source is impossible under the conditions of use. The irradiator has been evaluated by NRC and found to be acceptable for general use.

2. The room in which the irradiator is located is rarely unattended since the Blood Bank is staffed 24 hour per day. When unattended, the room is locked.

3. Personnel monitoring devices (film badges) will be issued monthly for a period of three months to the first group of employees using the device. If the cumulative exposures are less than 25% of the radiation protection guides shown in 10CFR20.101, personnel monitoring will be discontinued since such monitoring is not required by 10CFR20.202(a)(1).

4. Personnel using the irradiator will be provided with written operating and emergency procedures consisting of the following items:

a. Step-by-step operation of the unit as described in the manufacturers operating manual.

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- b. Film badges will be worn during the initial three month test period(as described in paragraph 3, above).
- c. The door to the room in which the irradiator is located must be locked when unattended.
- d. Radiation Protection will make the necessary leak tests initially and at six month intervals thereafter.
- e. The Blood Bank supervisor and Radiation Protection Service must be notified immediately if any malfunction is suspected.
- f. No maintenance is to be attempted without the approval of Radiation Protection.

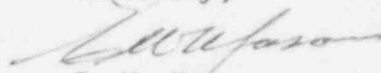
Please note that the Committee on Radiation Hazards has approved the application from the Blood Bank for use of the subject irradiator with the following additional conditions:

1. Radiation Protection Service will be present during initial setup of the device.
2. Radiation Protection will make a survey of the area in which the device is located, record the results, and post any signs required.
3. The applicant is prohibited from conducting any maintenance on the device which might expose the source.

As you proposed in our telephone conversation today, Radiation Protection Service will monitor the irradiator area routinely. We believe quarterly monitoring is adequate for this type of device.

We trust these procedures are satisfactory and the subject amendment can be issued forthwith. We will be glad to provide any further information you may require.

Sincerely,



E. W. Mason
Director

encl

pc: Mohammad Potiawala
Dr. S. Thomas Shaw, Jr
Dr. Joseph Baron
Nathan Sugarman
Dr. Frank Fitch
Walter Massey