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Date: March 19, 2024


Subject: Bella Vista Hospital, Request for Additional Information Model Control no. 637707, Lic. No. 52-25223-01 (renewal) **(E-mail/March 13, 2024)**

Dear Hiba Ahmed:

The following is the reply to your request for additional information.

- I. Shielding Calculation and Principle use for Areas above the PET/CT Imaging Room and Hot Room
 - a. Addendum I: See Shield Calculation/Explanation Sheet
- II. Protective Devices
 - a. We confirm that we have a syringe Shield Carrier for PET and the dose is transported in a syringe shield placed in a Carrier and transported on a car syringe.
 - b. Reference: **February 28, 2024/email**
 - i. Page 2; answer #7; item 9 (other Equipments and Facilities)

Sincerely,



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BELLA VISTA HOSPITAL
MAYAGUEZ, PR

Shielding calculations for rooms above imaging and hot room of PET/CT facility area. Above is a medical records office T=1/4 unrestricted.

The distance from floor to floor is 14 feet (4.2 m), 20 patients per work, imaging time is 30 minutes. The existing thickness of the floor is 4 inches. The dose rate is calculated at 0.5 m above the floor.

$$d = (4.3-1) + 0.5 = 3.8\text{m}$$

Patients is 1 meter above floor.

Transmission calculations (B)

$$B = 2.56 \times d(\text{m}^2) / [T \times N_o \times A (\text{MBq}) \times F_u \times t_i \times R_{ia}]$$

$$B = 256 \times (3.8)^2 / [0.25 \times 20 \text{ patients / week} \times 555 \times 0.85 \times 0.5 \times 0.91]$$

$$B = 3696.64 / 1073.23 = 3.44$$

When **B** is equal or higher than 1, shielding is not required.

Since the existing floor is 4 inches, no further shielding is required both from radiation coming from the imaging room and above hot room.