

Certified By MCP

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NLEB-RI-82-076

~~10 CFR 2.790 INFORMATION~~~~Personal Privacy Information Deleted  
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March 9, 1982

U.S. Nuclear Regulatory Commission  
Division of Materials Licensing  
Washington, DC 20555Thru: James J. Smith, M.D.  
Director, Nuclear Medicine  
Service (115)  
VA Central Office  
Washington, DC 20420Personal Privacy Information Deleted  
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Freedom of Information Act

Subj: Alleged Over-Exposure to Radiation

1. On February 1, 1982 Mr. Richard Knuth, a representative of R.S. Landauer Jr. & Company, reported to the Radiation Safety Officer that the reading on the radiation safety badge of our therapy technician, Mr. [REDACTED], was 67,690 millirems during the last Quarter of 1981. The maximum permissible dose for this period is 1,250 mrems, but exposures higher than 375 mrems per Quarter are automatically investigated by the Radiation Safety Officer and reported to the Radiation Safety Committee.

2. Mr. [REDACTED] was interviewed and the incident investigated as follows:

a. On October 27, 1981 Mr. [REDACTED] was in the Radiation Therapy Simulator Room for approximately five minutes while fluoroscopy was going on, because the foot pedal got stuck under a panel. (This condition has been corrected).

(1) A survey of the radiation scattered from the Simulator was performed by the Radiation Safety Officer and Health Physicist on February 1, 1982. A Scattering medium was placed on the table. The following settings were used: 99 kVp, 10 cm x 15 cm field size, 80 cm SSD, and the mA was set at 0.8 and 5.0. The scattered radiation was measured at 0.5 m from the center of the phantom and it varied from 75 mR/hr at 0.8 mA to 350 m/hr at 5.0 mA. A Baird Atomic Survey Meter Model 145, Serial No. 8377 calibrated on January 13, 1982 was used for this purpose. Clearly five minutes of fluore could not amount to more than 30 millirems under the worst conditions possible.

b. A Beam-Off Leakage Survey of the Cobalt 60 Teletherapy Unit was performed by the Radiation Safety Officer and Health Physicist on February 3, 1982 using an Eberline Geiger Counter Model E-120, Serial No. 2234 calibrated on January 13, 1982. No unsafe conditions were found. (Results attached).

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c. Mr. [REDACTED] was questioned and counseled by the Chief, Radiation Therapy Service and the Radiation Safety Officer on February 8, 1982. Mr. [REDACTED] stated that he had no radiographs taken during the last Quarter of 1981. This rules out the possibility of having worn the badge during a medical x-ray procedure. He also stated that his badge was never displaced or left in a room where it could have been exposed accidentally.

The high exposure report remains unexplained. The other employees in the Department had the usual low reports for the same period.

3. Actions taken:

- a. Mr. [REDACTED] has been advised to wear his pocket dosimeter at all times, keep careful record of its readings and report unusual exposure immediately. The Radiation Safety Officer will check the record weekly.
- b. A physical examination and laboratory studies by the Personnel Physician were performed on February 11, 1982. Results normal. Blood count and chemistry will be repeated in six months.
- c. Plan to obtain monthly film badges for the radiation therapy personnel in order to keep a closer surveillance on personnel exposures.

4. Conclusion: Mr. [REDACTED] has been a radiation worker for over 25 years. He has been instructed on, and is aware of the potential possibilities of radiation exposure. He is also aware of what precautions to take during his work to protect himself. He is a careful and conscientious worker. When questioned, he stated that he never felt sick or unusually tired and had not had any diarrhea or nausea during the last Quarter of 1981.

We do not believe Mr. [REDACTED] actually received this amount of exposure. Nevertheless, we continue to investigate and watch him carefully.

PETER BAGLIO  
Director

Attachment

cc: ✓ U.S.N.R.C.  
Region I  
Office of Inspection and Enforcement  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

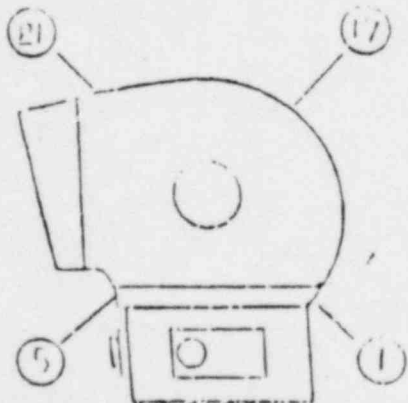
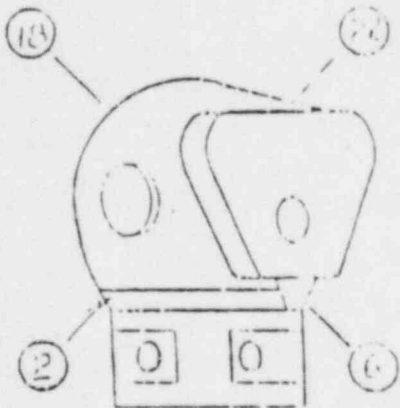
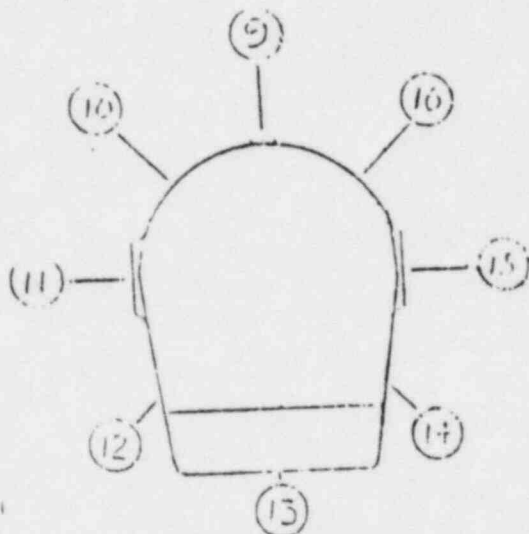
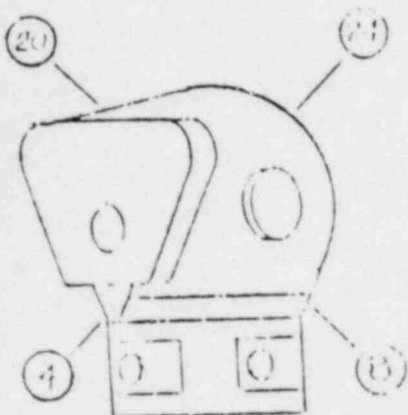
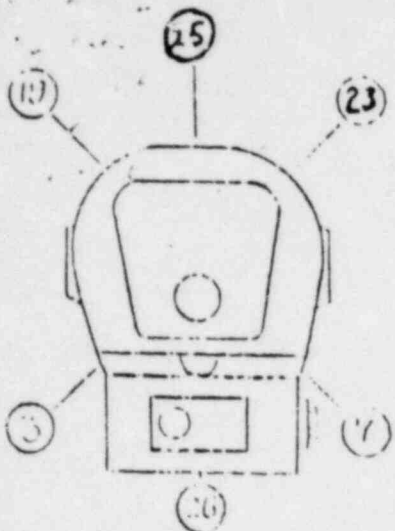
JAMES J. SMITH, M. D. (115)  
Director, Nuclear Medicine Service  
VA Central Office  
Washington, D.C. 20420

BEAM OFF LEAKAGE SURVEY SHEET  
for Cat. #590-E, F, G HEADS

0040

HEAD #590-E SERIAL No. 116  
SOURCE, CAT. P380 1A 1.5 cm. DIA.  
Rhm 6681 on 3/16/77  
CURIES 6167 on \_\_\_\_\_  
COBALT HEIGHTH 2.9 CAP TYPE solid  
SURVEY DATE 2/3/82 By: R.J. Smith, Ph.D. & W.G. Maniscalco, M.S.  
METER USED MFG. Eberline MODEL E-120 SER. 2284  
METER CALIBRATION DATE 1/13/82

FOR: VA Medical Center, East Orange, N.J.



No.	Dist.	Read	True	No.	Dist.	Read	True
1.	70cm.	<u>1.2</u>	---	14.	67cm.	<u>1.3</u>	---
2.	70	<u>1.5</u>	---	15.	73	<u>1.4</u>	---
3.	70	<u>1.0</u>	---	16.	73	<u>1.1</u>	---
4.	70	<u>1.2</u>	---	17.	73	<u>1.0</u>	---
5.	67	<u>1.6</u>	---	18.	73	<u>1.1</u>	---
6.	70	<u>1.4</u>	---	19.	73	<u>0.8</u>	---
7.	70	<u>1.1</u>	---	20.	71	<u>0.6</u>	---
8.	70	<u>1.5</u>	---	21.	69	<u>1.1</u>	---
9.	73	<u>1.2</u>	---	22.	71	<u>1.1</u>	---
10.	73	<u>0.6</u>	---	23.	73	<u>1.4</u>	---
11.	73	<u>0.6</u>	---	24.	73	<u>1.9</u>	---
12.	67	<u>0.8</u>	---	25.	76	<u>0.8</u>	---
13.	63	<u>1.0</u>	---	26.*	41	<u>7.0</u>	---

Note: \* On test stand multiply true by .74

TOTAL 26 POINTS 35.30 mR/h  
AVERAGE 26 POINTS 1.36 mR/h

Allowance  
Correct  $T = 10 \text{ mR/hr}$   $\bar{T} = 5.0 \text{ mR/hr}$