12/29/99 EVENT RIDS DIST PML
DCD (SP04)
cc: P Lohaus, OSP
L Bolling, AEPD
B Smith, NMSS

EVENT REPORT COVER PAGE

99 DEC 29 PM 2:23 OSP

AGREEMENT STATE

EVENT REPORT ID NO.: **IA - 99 - 02**

DATE: December 22, 1999

TO: Paul H. Lohaus, Director
Office of State Programs
One White Flint North
11555 Rockville Pike, 3rd Floor
Rockville, MD 20852

SUBJECT: Reportable Event - Broken Iodine-125 Brachytherapy Seed

STATE: IOWA

Signature and Title:

Donald A. Flater, Chief
for Iowa Department of Public Health
Bureau of Radiological Health
(515) 281-3478

NRC FILE CENTER COPY

PDR STPRG IA

SP-E-9 87

(a)	Licensee:	St. Luke's Regional Medical Center
(b)	Agreement State ID No.	IA-99-02
(c)	Type of License	Medical Institution
(d)	License No.	0035-1-97-M1
(e)	This Item No.	Final Report
(f)	Abnormal Occurrence:	Yes
(g)	Isotope:	Iodine-125
	Activity:	.341 mCi
(h)	Type of Isotope:	AEA
(i)	Date of Event:	11/22/99
(j)	Date of This Report:	12/22/99
(k)	Amount of Radioactive Material:	.390 mCi
(l)	Events Involving Overexposure:	None
(m)	Leaking Source:	N/A
(n)	Lost or Stolen Material	Yes
	1. Nuclear Material	
	2. Sealed Sources and Devices	Yes
	Type:	Therapeutic Sealed Source
	Manufacturer:	Nycomed Amersham plc
	Model No.:	6711 SS&D No: IL-136-S-338-S
	Serial No:	N/A

	Disposition/Recovery:	Portion of broken source recovered. Remaining portion not located.
(o)	Release of Material:	Volitile Iodine-125
(p)	Events involving Radiography:	N/A
(q)	Events Involving Irradiator:	N/A
(r)	Events Involving Teletherapy:	N/A
(s)	Transportation Event:	N/A
(t)	Regulatory Reporting Requirement:	4 hours
(u)	Demographic Information:	N/A

(v) ABSTRACT:

This incident report is concerning the events that took place November 22, 1999 at Saint Luke's Regional Medical Center in Sioux City Iowa; specifically the brachytherapy implant performed for prostate cancer. The oncologist used radioactive Iodine-125 seeds (0.3408 mCi each) for this implant. During the procedure one seed became jammed in the cartridge inside the mick applicator. The applicator was then removed from the needle and taken to the sterile table for inspection. The nursing staff had trouble removing the cartridge from the applicator and used some force to do so. The applicator seemed to be in working order a new cartridge was installed and was used to complete the procedure without incident.

The cartridge that jammed appeared to contain half of the final seed and appeared to have been severed. The implant was completed and the area was surveyed to locate the lost portion of the seed. The operating table was surveyed by the physicist with the patient on the table as well as with the patient removed. This survey included all drapes and linens on the table. The physicist then surveyed the scrub table for the lost seed. This survey included the rinse basin, the mick applicator, the needles and all drapes and linens. Finally, the floor under the booth tables and in the work area was surveyed. One entire seed was found but no portion of the severed seed was located during external surveys. An inventory count of all seeds was performed to be sure only one portion of the seed was missing. All counts indicated only one portion of a seed was absent. A final survey of the room was performed with all drapes and linens in collection bags. No radioactivity was apparent in the bags.

The cartridge that was jammed was taken to the nuclear medicine hot lab to remove the seed. One part of a seed approximately 1 mm in length was removed from the cartridge

that appeared to have been pinched or sheared. It recorded an exposure of approximately 0.4 mR/hr at one centimeter from the Geiger Mueller (GM) survey meter. No contamination was indicated on the cartridge and the portion of the seed was removed from the bench with tape and wrapped in a rubber glove for decay in the fume hood.

At this time the physicist contacted the vendor (ProSeed) to request procedural information. The radiation safety officer at the nuclear pharmacy (Nycomed Amersham) requested that the room be resurveyed and any places of the seed be placed in the fume hood. The applicator was dismantled and inspected as well as all of the laundry and garbage in the housekeeping area of the hospital. No radioactivity was indicated. At this time without any indication of external contamination, the assumption was made that the lost portion of the seed was implanted in the patient.

Orthogonal films were taken of the patient's treated area. After the implanted seeds were counted, they indicated that the portion of the seed was not in the patient.

All personnel had their thyroid assayed within the first week of the event. No uptake of Iodine-125 was identified.