Event Detail - Abnormal Occurrence

ITEM #:	060319	**AO #:**	06-02	**AO REPORT:**	NUREG-0090, Vol. 29
TITLE:	Medical Event at Bozeman Deaconess Hospital in Bozeman, Montana				
NAME:	Bozeman Deaconess Hospital				
DATE:	05/09/2006	**CITY:**	Bozeman	**STATE:**	MT

Criteria:

Criterion IV, "For Medical Licensees," of Appendix A to this report states, in part, that a medical event that results in a dose that is (1) equal to or greater than 1 Gy (100 rads) to a major portion of the bone marrow, to the lens of the eye, or to the gonads or (2) equal to or greater than 10 Gy (1,000 rads) to any other organ; and represents a prescribed dose or dosage that is delivered to the wrong treatment site will be considered for reporting as an AO.

Nature and Probable Consequences:

The licensee reported that a patient was prescribed a brachytherapy treatment of 145 Gy (14,500 rad) to the prostate gland for prostate cancer using 82 iodine-1 25 seeds, but instead received a 130 Gy (13,000 rad) dose to an unintended treatment site. The brachytherapy seeds were implanted under ultrasound guidance; however, a post-treatment computerized tomography scan confirmed that only 10 seeds were implanted in the prescribed location of the prostate, resulting in a dose of 8.6 Gy (860 rad) delivered to the intended treatment site. Concerning the 72 seeds not in the intended treatment site, the urologist was able to recover 3 seeds and determined that 69 seeds were implanted inferior to the prostate in the wrong treatment site. The referring physician and the patient were informed of this event and were advised that the patient may experience discomfort during urination. The NRC staff conducted a reactive onsite inspection on May 16, 2006. An NRC contracted medical consultant experienced in radiation oncology reviewed the case and agreed with the licensee's analysis and conclusions. An NRC inspection report has been issued.

Cause:

This medical event was caused by human error because the licensee did not verify that the sources were positioned in the proper location in the prostate. The urologist misidentified the anatomy viewed under the ultrasound guidance procedure.

Licensee Action:

The licensee revised its procedures, requiring a fluoroscopic examination early in the implant procedure to ensure that the seeds are placed in the correct location, thus resolving any questions concerning ultrasound images prior to commencing with the implant. The licensee also implemented additional staff training.

NRC Action:

Other Agency Action: