Event Detail - Abnormal Occurrence

ITEM #:	070074	**AO #:**	07-05	**AO REPORT:**	NUREG-0090, Vol. 30
TITLE:	Medical Event at the University of Virginia at Charlottesville, Virginia				
NAME:	University of Virginia				
DATE:	02/02/2007	**CITY:**	Charlottesville	**STATE:**	VA

Criteria:

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

Nature and Probable Consequences:

University of Virginia at Charlottesville (the licensee) reported that a patient was prescribed a brachytherapy treatment of 30 Gy (3,000 rad) for treatment of cancer of the cervix using cesium-137 sources. Instead, the patient received 7.7 Gy (770 rad) to the cervix and small volumes of the rectum and vaginal mucosa received doses greater than intended, ranging from 14.14 Gy to 26.77 Gy (1,414 rad to 2,677 rad). Upon removal of the implant, the licensee discovered that the applicator had been loaded with a plastic radioactive source carrier insert that was approximately 4 cm (1.6 in) shorter than the intended 24 cm (9.5 in) insert, which caused the sources to be displaced from the intended position. The patient and the referring physician were informed of this event, and additional external beam radiation treatment was recommended.

The NRC staff conducted a reactive onsite inspection on February 12, 2007. The NRC-contracted medical consultant reviewed the case and agreed with the licensee's analysis and conclusions, stating that no significant adverse health effect to the patient is expected.

Cause:

The medical event was caused by the licensee's failure to ensure that the insert was of the correct length before preloading the cesium-137 sources.

Licensee Action:

The licensee revised its procedures, including measuring the length of the insert before loading the source, and limiting the supply of inserts in the source loading room to inserts of the length used for standard applicator treatments. The licensee also implemented additional staff training.

NRC Action:

On May 7, 2007, the NRC issued a Notice of Violation related to this event.

Other Agency Action: