

**Docket File Information**  
**SAFETY INSPECTION REPORT**  
**AND COMPLIANCE INSPECTION**

1. LICENSEE <b>IUPUI/Indiana University Medical Center</b>		2. NRC/REGIONAL OFFICE <b>Region III</b> <b>2443 Warrenville Road</b> <b>Lisle, IL 60532</b>	
REPORT <b>2006-002</b>			
3. DOCKET NUMBER(S) <b>030-01609</b>	4. LICENSE NUMBER(S) <b>13-02752-03</b>	5. DATE(S) OF INSPECTION <b>September 20, 2006</b>	
6. INSPECTION PROCEDURES <b>87134</b>	7. INSPECTION FOCUS AREAS Ltd. To review of corrective actions regarding escalated enforcement (IR No. 03001625/2006001(DNMS))		
SUPPLEMENTAL INSPECTION INFORMATION			
1. PROGRAM CODE(S) <b>1100</b>	2. PRIORITY <b>G2</b>	3. LICENSEE CONTACT <b>Mack Richard, M.S., RSO</b>	4. TELEPHONE NUMBER <b>317-274-4797</b>
<input checked="" type="checkbox"/> Main Office Inspection		Next Inspection Date: <b>September 2006 (Routine)</b>	
<input type="checkbox"/> Field			
<input type="checkbox"/> Temporary Job Site			

**PROGRAM SCOPE**

This follow-up inspection was conducted to review and verify the implementation of the licensee's submitted corrective actions following escalated enforcement as described in IR 03001609/06-001, dated May 4, 2006, (Ascension Number ML 061250047) and the subsequent issuance of a Notice of Violation dated July 10, 2006, in which one violation was issued and characterized as a Severity Level III problem (Ascension Number ML061920472). The violation involved failure to develop written procedures to provide high confidence that each administration is in accordance with the written directive and treatment plan. Specifically, the licensee did not have a procedure to determine or verify the correct position of each radioactive source in the Fletcher-Suit-Delclos ovoid brachytherapy applicator prior to their placement for patient treatments.

The licensee's use of the wrong length source bucket carrier (SBC) containing cesium-137 sealed sources caused the sources to be displaced from the correct position in the ovoid applicators during brachytherapy treatments, resulting in two medical events.

The licensee described the corrective actions in a letter dated June 2, 2006, and included: 1) remove from service the short SBCs and a pair of the ovoid applicators. In addition, the licensee ordered a new pair of Fletcher-Suit Delclos ovoid applicators; (2) the licensee modified its procedure "Brachytherapy Implant Checklist," to include specific verification of SBC placement within the source applicator prior to implant; (3) each set of Fletcher-Suit Delclos ovoid applicators kits will be color coded for unique identification so that each applicator is matched with the correct SBC, and (4) written procedures have been modified to specifically require that the compatibility of the SBC and the applicator be verified through radiographs after they have been inserted in the patient.

**Performance Observations**

Interviews conducted with available members of the Radiation Safety Office and the Department of Radiation Oncology revealed that cognizant parties were aware of the event and the corrective actions. A review of the licensee's written policy manual revealed all actions specified above have been incorporated in writing. The Brachytherapy Implant Checklist was reviewed and contained modifications as specified. Color coded applicator kits were observed available. A member of the physics staff initials the front simulator films verifying the correct placement of the source carriers. A staff physicist was assigned to verify the compatibility of all applicator parts and remove from inventory any unmatched parts.

Based on the above interviews and observations, the licensee had successfully implemented the stated corrective actions. Therefore, the aforementioned violation may be considered closed.

