

Docket File Information
SAFETY INSPECTION REPORT
AND COMPLIANCE INSPECTION

1. LICENSEE Southeast Missouri Hospital REPORT NUMBER(S) 2005-001		2. NRC/REGIONAL OFFICE Region III	
3. DOCKET NUMBER(S) 030-02264	4. LICENSE NUMBER(S) 24-00128-03	5. DATE(S) OF INSPECTION December 13, 2005	
6. INSPECTION PROCEDURES USED 87131, 87132	7. INSPECTION FOCUS AREAS 03.01 - 03.07, 03.01 - 03.07		

SUPPLEMENTAL INSPECTION INFORMATION

1. PROGRAM CODE(S) 02240	2. PRIORITY 2	3. LICENSEE CONTACT Samuel S. Hancock, Ph.D., RSO	4. TELEPHONE NUMBER 573-651-5544
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Main Office Inspection Next Inspection Date: **Dec. 2007**

Field Office _____

Temporary Job Site _____

PROGRAM SCOPE

The licensee was a 280-bed hospital located in Cape Girardeau, Missouri, which served the southeast Missouri region and nearby areas of Illinois. Licensee had authorization to use byproduct materials under Sections 35.100, 35.200, 35.300, 35.400, and 35.500. While authorized to perform therapies using iodine-125 as *lotrex* for *GliaCite* Radiotherapy, licensee had performed none since the previous inspection. Licensed activities were conducted only at the facility indicated on the license.

The nuclear medicine department was staffed with five full-time and one part-time nuclear medicine technologists. The licensee's nuclear medicine staff typically administered 400 diagnostic doses monthly in the nuclear medicine area. Doses were primarily technetium-99m for cardiac, bone, lung, and other studies. In addition, nuclear medicine personnel performed diagnostic procedures using indium-111, thallium-201, iodine-123, and iodine-131. Doses were received as unit doses from a licensed radiopharmacy or prepared from bulk technetium. All waste was held for decay-in-storage (DIS) or returned to the radiopharmacy.

The radiation therapy staff consisted of one oncologist, two physicists, and one dosimetrist. The staff performed approximately six permanent iodine-125 seed implants (using pre-loaded needles) and four temporary cesium-137 implants annually. In addition, they performed around 25 iodine-131 treatments annually, including hyperthyroid treatments and thyroid ablations, with the iodine-131 in capsule form. All waste from the radiopharmaceutical therapies was returned to nuclear medicine for disposal or DIS.

Performance Observations

The inspector observed one diagnostic administration of licensed material including dose preparation and disposal, and identified no issues with the procedures. Licensee personnel demonstrated dose calibrator constancy tests, survey meter QA procedures, and package receipt surveys, and described daily and weekly contamination surveys. The inspector found no concerns with these activities. The inspector reviewed written directives for radiopharmaceutical therapies and seed implants, and found no issues. Interviews with licensee staff indicated adequate knowledge of radiation safety procedures. Radiation surveys indicated radiation levels consistent with licensee survey records.