

## SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

## 1. LICENSEE/LOCATION INSPECTED:

Bothwell Regional Health Center

601 E. 14th St  
Sedalia, MO 65302-1706

REPORT NUMBER(S) 2019001

## 2. NRC/REGIONAL OFFICE

Region III  
U. S. Nuclear Regulatory Commission  
2443 Warrenville Rd, Suite 210  
Lisle, IL 60532

## 3. DOCKET NUMBER(S)

030-10715

## 4. LICENSE NUMBER(S)

24-16275-01

## 5. DATE(S) OF INSPECTION

February 5, 2019

## LICENSEE:

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- ☒ 1. Based on the inspection findings, no violations were identified.
- ☐ 2. Previous violation(s) closed.
- ☐ 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.

Non-cited violation(s) were discussed involving the following requirement(s):

- ☐ 4. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.  
(Violations and Corrective Actions)

## Statement of Corrective Actions

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE'S REPRESENTATIVE			
NRC INSPECTOR	Zahid Sulaiman, Health Physicist	<i>Zahid Sulaiman</i>	2/26/19
BRANCH CHIEF	Aaron T. McCraw, Chief, MIB	<i>ATM - for ATM</i>	2/27/19

**Docket File Information**

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5. DATE(S) OF INSPECTION

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6. INSPECTION PROCEDURES USED

87131, 87132

7. INSPECTION FOCUS AREAS

03.01 - 03.07

**SUPPLEMENTAL INSPECTION INFORMATION**

1. PROGRAM CODE(S)

02230

2. PRIORITY

2

3. LICENSEE CONTACT

Kara Sheeley, Director of Oncology

4. TELEPHONE NUMBER

(660) 827-9440

☒ Main Office Inspection

Next Inspection Date: 02/05/2021

☐ Field Office Inspection

☐ Temporary Job Site Inspection

**PROGRAM SCOPE**

This was a routine, unannounced inspection of a regional health center located in Sedalia, Missouri with authorization to use byproduct materials under 10 CFR Sections 35.100, 35.200, 35.300, 35.400, and 35.600 (iridium-192 in a high dose rate remote afterloader (HDR) system). The nuclear medicine department was staffed with a full-time and two part-time nuclear medicine technologists (NMTs). The NMTs typically administered approximately 120 diagnostic doses monthly, 3 iodine-131 (I-131 in capsules form), and 4 radium-223 therapy procedures annually. The diagnostic procedures included a variety of imaging and uptake procedures using technetium-99m (Tc-99m), primarily cardiac stress test, bone scan, Hida, gastric emptying, lung scan using DTPA, and thyroid and hyperthyroid scans. The oncology department was staffed with one oncologist, two authorized medical physicists (AMPs), and a dosimetrist who performed approximately five HDR treatments since the start of the HDR treatment in October 2018. The HDR unit was primarily used for breast cancer treatments using a Accuboot applicator. The Accuboot applicator uses mamography to take the image, the oncologist develops the written directives and the treatment plan using the image and provides the treatment using the Accuboot applicator with HDR unit. Licensee was the first location in Region 3 that uses the Accuboot applicator. Licensee had not performed any seed implants since the previous inspection.

**Performance Observations:**

The inspection consisted of interviews with selected licensee personnel; a review of selected records; and tours of the nuclear medicine department and the oncology department. This inspection was focused on the newly installed HDR unit and the treatment procedures. The inspector had the AMP demonstrate the HDR unit's: (1) security; (2) daily spot checks; (3) emergency equipment and procedures; (4) safety procedures and instructions; (5) door interlock system; (6) radiation monitoring equipment checks; and (7) the Accuboot applicator use. The inspector also reviewed selected HDR and I-131 written directives and treatment plans. The inspector reviewed the following records: radiation safety committee minutes, quarterly program audits, DOT Hazmat training, linearity and accuracy of the dose calibrator, instrument calibration, and sealed source leak tests. The inspector reviewed the dosimetry records for 2017 and through November, 2018 indicating the maximum annual dose to be 356 mrem - DDE; and 4,032 mrem - SDE. The inspector conducted independent and confirmatory radiation surveys and found no residual contamination or exposures to members of the public in excess of regulatory limits. The last HDR source was exchanged on January 16, 2019.

No violations of NRC requirements were identified as a result of this inspection.