

April 29, 2011

BORGESS
Medical Center

UNITED STATES NUCLEAR REGULATORY COMMISSION
Region III, Materials Licensing Section
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

Re: Termination of license number 21-32287-01, Borgess-Lee Memorial Hospital.


Please note that this termination is being sent in conjunction with an amendment to add the radioactive use areas at Lee Memorial Hospital to Borgess Medical Center. Please terminate license number 21-32287-01 at the same time you approve the amendment to add the new address of use onto the Borgess Medical Center license to avoid any interruption of patient services.

1. As of April 29, 2011, Lee Memorial Hospital, license number 21-32287-01, will be owned and managed by Borgess Medical Center.
2. Upon approval, Borgess Medical Center will add Borgess Lee Memorial Hospital onto its NRC license and we will continue to provide patient services. There will be no changes in the location of radioactive materials and use areas. All equipment will remain as is, continued to be owned by Borgess Lee Memorial Hospital. Radioactive sealed sources will remain at Borgess Lee Memorial Hospital, but will now be owned by Borgess Medical Center. Authorized users on the Borgess Lee Memorial Hospital license are also authorized users at Borgess Medical Center and our licensed program will continue to operate with no interruption in patient services.
3. All required records regarding the use and possession of licensed materials will be current at the time of the transfer. The status of compliance will be maintained before, during and after the transfer of ownership. The surveillance program is current and documented and all records are kept at the address of use. The surveillance program will continue to be up to date at the time of the transfer of control. There are no open inspection items related to materials license number 21-32287-01.

All parties involved with the transfer are aware and agree to the planned transfer of ownership.

If you have any questions regarding this termination please contact Tom Mushett, Radiology Director at 269-226-4833 or Paul Jursinic, Ph.D., RSO at Borgess Medical Center, at 269-373-7407.

Regards,



Joy Strand, COO
Borgess-Lee Medical Center



Linda Lawton, Vice President of Operations
Borgess Medical Center

NRC FORM 314 <small>(4-2008) 10 CFR 30.36(j)(1); 40.42(j)(1); 70.38(j)(1); and 72.54(k)(5)(1)(1)</small>	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB: NO. 3150-0028	EXPIRES: 08/31/2010
<h2 style="margin: 0;">CERTIFICATE OF DISPOSITION OF MATERIALS</h2>		Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.	

LICENSEE NAME AND ADDRESS Borgess Lee Memorial Hospital 420 West High Street Dowagiac, MI 49047	LICENSE NUMBER 21-32287-01	DOCKET NUMBER
LICENSE EXPIRATION DATE 01/31/2011		

A. LICENSE STATUS (Check the appropriate box)

This license has expired. This license has not yet expired; please terminate it.

B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

1. No radioactive materials have ever been procured or possessed by the licensee under this license.

2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner.

a. Transfer of radioactive materials to the licensee listed below:
 Borgess Medical Center license 21-12275-02 +

b. Disposal of radioactive materials:

1. Directly by the licensee:

2. By licensed disposal site:

3. By waste contractor:

c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

C. SURVEYS PERFORMED AND REPORTED

1. A radiation survey was conducted by the licensee. The survey confirms:

a. the absence of licensed radioactive materials

b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.

2. A copy of the radiation survey results:

a. is attached; or b. is not attached (Provide explanation); or c. was forwarded to NRC on: _____ Date

3. A radiation survey is not required as only sealed sources were ever possessed under this license, and

a. The results of the latest leak test are attached; and/or b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME Tom Mushett	TITLE Radiology Director	TELEPHONE (Include Area Code) (269) 226-4833	E-MAIL ADDRESS
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Mail all future correspondence regarding this license to:
1521 Gull Road, Kalamazoo, MI 49048

C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE TOM MUSHETT RADIOLOGY DIR.	SIGNATURE 	DATE 5-17-11
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WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

NUCLEAR MEDICINE INSPECTION REPORT

Licensee: Borgess Lee Memorial Hospital
420 West High Street
Dowagiac, MI 49047

Date of Inspection: March 22, 2011

License Number: 21-32287-01

Expiration Date: January 31, 2011

Amendment Number: 5

Authorized Users: As listed on NRC license

Radiation Safety Officer: John Larsen, B.S.

Most Recent NRC Inspection: July 24, 2007

Inspector: Ray A. Carlson, M.S.

Signature:

COMMENTS AND RECOMMENDATIONS:

1. A second GM survey meter is needed.
2. No other findings were noted.

DOCUMENTATION'S AND NOTICES

10CFR19, 10CFR20 and 10CFR35 referenced?	YES
License with conditions and amendments referenced and on file?	YES
Notice of Violation posted?	YES
Form NRC-3 "Notice to Employees" posted?	YES
MDPH Ionizing Radiation Protection Rules available?	YES
DEQ form EQC 1627 "Notice to Employees" posted?	YES
DEQ Registration form EQC 1614 (current) on file? (09/12/01)	YES

OPERATING PROCEDURES

Radiation safety regulations posted?	YES
Emergency liquid spill procedures posted?	YES
Emergency xenon-133 spill procedures posted?	N/A
Procedures for ordering and accepting delivery of radioactive materials available?	YES
Waste disposal procedures available?	YES
Personnel familiar with operating procedures?	YES

DOCUMENTED WORKER INSTRUCTION PROGRAM

Ancillary annual presentation date:	12/16/10	Renewal Date:	12/16/11	YES
Technologist annual review date:	11/29/10	Renewal Date:	11/29/11	YES
HAZMAT/DOT training:	07/17/08	Renewal Date:	07/17/2011	YES
New employees instructed?				YES

PERSONNEL MONITORING

Whole body badges?	YES
Extremity TLD's?	YES
Exposure levels acceptable?	YES
Excessive-exposure reports filed?	N/A

REQUIRED PROCEDURES DOCUMENTED

Hand and cloth monitoring?		YES
Daily operational checks of survey meters?		YES
Daily area surveys?		YES
Weekly surveys including wipe tests?		YES
Xenon trap monitoring?		N/A
Room ventilation monitoring?		N/A
Semi-annual evaluations:	<input type="text"/> <input type="text"/>	
Radionuclide inventories available?		YES
<i>First Quarter:</i>	<input type="text"/> 03/22/11	
<i>Second Quarter:</i>	<input type="text"/> 06/16/10	
<i>Third Quarter:</i>	<input type="text"/> 07/14/10	
<i>Fourth Quarter:</i>	<input type="text"/> 12/28/10	
Sealed source leak test signed by the RSO?		YES
Semi-annual evaluations:	<input type="text"/> 07/14/10 <input type="text"/> 12/28/10	

RADIOACTIVE MATERIAL PACKAGE RECEIPT

Visual check?	YES
One meter three feet survey?	YES
Surface survey?	YES
Empty package survey?	YES
Package contamination check?	YES

PACKAGE RETURN TO SUPPLIER

Surface survey?	YES
Container contamination check?	YES

RADIONUCLIDE USE

NRC Authorized Radionuclides	Possession Limits
35.100	As needed
35.200	As needed

- Only authorized radionuclides in possession? YES
- Radioactivity in possession within limits? YES
- Radiopharmaceuticals used only as authorized? YES
- Radiopharmaceuticals assayed prior to administration? YES
- Doses used within \pm 10% of prescribed dose? YES
- All syringes/syringe shields properly labeled? YES
- Molybdenum-99 assays recorded? YES
- Medical events reported and/or documented? N/A

Security of radioactive material:

- Rooms/areas where RAM is stored, used or disposed of are secure? YES
- RAM waste areas secured? YES

Breastfeeding:

- Breastfeeding instructions provided & release records on file? YES
- Breastfeeding criteria known to staff? YES

WASTE DISPOSAL

- Liquids:** Release to sewer system Other
- Release to commercial service
- Solids:** Hold for decay Other
- Release to commercial service.
- Radionuclide Generators:** Return to manufacturer Hold for decay

Waste disposal record? YES

INSTRUMENT CALIBRATION AND MAINTENANCE

Dose Calibration

- Constancy checks on a commonly used setting? YES
- Linearity tests acceptable? YES

First Quarter: 03/22/11 Third Quarter: 07/14/10
 Second Quarter: 06/16/10 Fourth Quarter: 12/28/10

Accuracy test acceptable and signed by RSO or delegate? YES

Annual Evaluation: 07/14/10 12/28/10

Geometrical variation test acceptable?

YES

Installation/repair evaluation: 02/16/01

HEALTH PHYSICS EQUIPMENT

	Available	Labeled
Hot Sink	NO	N/A
Storage areas	YES	YES
Lead containers	YES	YES
Refrigerator	NO	N/A
Doors	YES	YES
Fume Hood	NO	N/A
Lead syringe holders	YES	
Lead syringe shields	YES	
Lead glass face shield	YES	
Remote handling tools	YES	
Lead bricks	YES	
Absorbent pads	YES	
Gloves	YES	
Hand sink	YES	
Decontamination kit	YES	

SCINTILLATION CAMERA EVALUATION

Manufacturer: ADAC Model Number: Vertex-V60

Options: Whole Body Scan Tomography

Quality Control Procedures

- Daily Floods Tc-99m Co-57 Intrinsic Extrinsic
- Weekly resolution pattern - images in each quadrant of crystal
- Weekly scan of resolution pattern (scanning systems only)
- Weekly center of rotation (ECT systems only)
- Monthly uniformity phantom (ECT systems only)
- Quarterly resolution phantom (ECT systems only)

Uniformity

Tc-99m: Acceptable Some non-uniformity Unacceptable
 Co-57: Acceptable Some non-uniformity Unacceptable

Resolution

<i>Previous Results</i>			
4	Quadrants	4	Quadrants
2.12	mm	2.12	mm

Mechanical Aspects

Condition of collimators: Excellent.

Controls functioning: Yes.

Comments:

SURVEY METER INSPECTION

Manufacturer:	Ludlum
Type:	GM
Model Number:	14C
Serial Number:	167360
Probe Model:	EWGM
Last Calibration Date:	07/15/10
<i>Battery check acceptable?</i>	YES
<i>Operational check acceptable?</i>	YES
<i>Drift check acceptable?</i>	YES
<i>Constancy check acceptable?</i>	YES
Current Reading:	3.5 mR/hr
Previous Reading:	3.5 mR/hr

Manufacturer:	
Type:	
Model Number:	
Serial Number:	
Probe Model:	
Last Calibration Date:	
<i>Battery check acceptable?</i>	
<i>Operational check acceptable?</i>	
<i>Drift check acceptable?</i>	
<i>Constancy check acceptable?</i>	
Current Reading:	mR/hr
Previous Reading:	mR/hr

DOSE CALIBRATOR ACCURACY TEST

Manufacturer: CAPINTEC

Model Number: CRC-15R Serial Number: 154444

Cs-137 Model Number: RV-137-200U Serial Number: 747-11-29

Calibration Activity:	210.7 uCi on 03/01/01
Measured Activity:	171 uCi
Calculated Activity:	167.0 uCi
Percent Error:	2.4 %

Co-57 Model Number: _____ Serial Number: _____

Calibration Activity:	uCi on
Measured Activity:	uCi
Calculated Activity:	uCi
Percent Error:	%

Ba-133 Model Number: RV-133-250U Serial Number: 743-16-23

Calibration Activity:	250 uCi on 03/01/01
Measured Activity:	131 uCi
Calculated Activity:	131.1 uCi
Percent Error:	0.45 %

Acceptable Limits: $\pm 10\%$

RSO: *Jordan RBA*

DOSE CALIBRATOR ACTIVITY LINEARITY CHECK

Dose Calibrator:	Capintec	Physicist:	Ray A. Carlson, M.S.
Model Number:	CRC-15R	Serial Number:	154444
Source Configuration:	Syringe	must be same as on Data Sheet #1	

NOTE: All readings must be taken at lowest range setting available and converted to mCi units.

A Tube Color	B Displayed Activity	C Calibration Factor	D Product of BxC
Black Only:	39.4 mCi x	1.0 =	39.4
Black & Red:	22.9 mCi x	1.76 =	40.3
Black & Orange:	13.14 mCi x	3.0 =	39.4
Black & Yellow:	4.27 mCi x	9.4 =	40.1
Black & Green:	1.36 mCi x	30 =	40.8
Black & Blue:	0.604 mCi x	67 =	40.5
Black & Purple:	0.071 mCi x	556 =	39.5
Black/Purple/Red:	0.038 mCi x	1052 =	40.0
Black/Purple/Orange:	0.022 mCi x	1818 =	40.0
		SUM =	360.0

$$\text{MEAN} = \frac{\text{SUM}}{9} = 40.0$$

$$\text{MEAN} \times 1.10 = 44.0 = \text{Upper Limit} *$$

$$\text{MEAN} \times 0.90 = 36.0 = \text{Lower Limit} *$$

Compare column D data to Upper and Lower Limits to confirm linearity.

* Instead of a variation in the column D data of $\pm 5\%$, your radioactive material license may allow a difference of $\pm 10\%$ in the test results. If so, multiples of 1.10 and 0.90 can be used to determine the Upper and Lower Limits.

RSO: J. Jansen RPA

Location: Borgess Lee Memorial Hospital

Date of Inspection: March 22, 2011

SEALED SOURCE INVENTORY

Nuclide	Type	Location	Calibration Activity	Calibration Date	Mfgr.	M/N	S/N
Cs-137	vial	Hot Lab	210.7 uCi	03/01/01	IPL	RV-137-200U	747-11-29
Ba-133	vial	Hot Lab	250 uCi	03/01/01	IPL	RV-133-250U	743-16-33
Co-57	flood	Hot Lab	10 mCi	02/01/09	IPL	NES-8400	1347-030
Co-57	line	Hot Lab	230 uCi	06/01/09	IPL		1377-50

RSO: _____

SEALED SOURCE LEAK TEST

Nuclide	Type	Location	Calibration Activity	Calibration Date	Mfgr.	M/N	S/N
Cs-137	vial	Hot Lab	210.7 uCi	03/01/01	IPL	RV-137-200U	747-11-29
Ba-133	vial	Hot Lab	250 uCi	03/01/01	IPL	RV-133-250U	743-16-33
Co-57	line	Hot Lab	230 uCi	06/01/09	IPL		1377-50

COMMENT: *The sources listed above were leak tested using a wipe technique and were found to have less than 0.005 uCi removable activity.*

TESTED BY: Ray A. Carlson, M.S.

DATE: March 22, 2011

RSO: *Ray A. Carlson RPA*