

Borgess Health

1521 Gull Road
Kalamazoo, MI 49048
(269) 226.7000

BORGESS

25 April 2018

Materials Licensing Section
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Rd.
Lisle, IL 60532-4352

Subject: Amendment requests for license number 21-12275-02

This is a request of Borgess Medical Center for the following amendment to its materials license no. 21-12275-02.

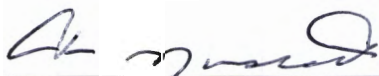
Add Brian E. Schulz, M.D. as an authorized user for 10CFR 35.100 and 10CFR35.200. Dr. Schulz was an authorized user for 10 CFR 35.100, 35.200, 35.300 (I-131:533mCi), 35.65 on Nevada Agreement State License Number 03-12-0568-01. A copy of this license is attached.

Additionally, close out data is attached for Borgess Lee Memorial Hospital, which was requested to be removed from our license in our 10 April 2018 letter.

If there are any questions, please do not hesitate to contact me at (269) 373-7407.
Thank you.



Paul Jursinic, Ph.D.
Radiation Safety Officer
Borgess Medical Center



Tom Mushett, MHA
V.P. Operations
Borgess Medical Center

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City, State, ZIP+4®	Lisle IL 60532

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

BRIAN SANDOVAL
Governor

STATE OF NEVADA

AMY ROUKIE, MBA
Administrator, DPBH

RICHARD WHITLEY, MS
Director, DHHS



LEON RAVIN, MD
Acting Chief Medical Officer

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC AND BEHAVIORAL HEALTH
Bureau of Preparedness, Assurance, Inspections and Statistics
Radiation Control Program
675 Fairview Drive, Suite 218
Carson City, Nevada 89701
Telephone: (775) 687-7550 · Fax: (775) 687-7552

January 8, 2018

Desert Radiologists
Attn: Leman Marshall, RSO
2811 West Horizon Ridge Parkway
Henderson, Nevada 89052

Re: Nevada Radioactive Material License No. 03-12-0568-01

Dear Mr. Marshall:

Enclosed is Amendment No. 51, amended in its entirety, with new and revised text in bold.

Procedures and documents (i.e., shielding designs, evaluations of expected worker exposures, descriptions of radiation safety and security controls, etc.) submitted during the licensing process are reviewed and documented to ensure that the radiation safety program is commensurate with its scope. The effectiveness, accuracy and implementation of these radiation safety measures are evaluated, at the facility, during the inspection process.

Forms, regulations and other information may be accessed at the Radiation Control Program's web site:
[http://dpbh.nv.gov/Reg/RAM/Radioactive_Material_Program_\(RAM\)_-_Home/](http://dpbh.nv.gov/Reg/RAM/Radioactive_Material_Program_(RAM)_-_Home/).

Future amendment requests will need to be submitted on the Amendment Request Form found at the link above.

If there are any questions, contact Haley Brown, Radiation Control Specialist, at 702-486-3015.

Sincerely,

A handwritten signature in cursive script that reads "Karen K. Beckley".

Karen K. Beckley, M.P.A., M.S.
Bureau Chief

Enclosure: Amendment No. 51

HBA/j



Nevada Radiation Control Program Radioactive Materials License

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03-12-0568-01
LICENSE NUMBER

51
AMENDMENT NUMBER
(AMENDED IN ITS ENTIRETY)

A license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material designated below and to use such radioactive material for the purpose(s) and at the location(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect and to any conditions specified below. ¹

1. Desert Radiologists <small>LICENSEE NAME</small>	3. 03-12-0568-01 <small>LICENSE NUMBER</small>
2. 2811 West Horizon Ridge Parkway <small>STREET ADDRESS</small>	4. February 28, 2020 <small>EXPIRATION DATE</small>
Henderson <small>CITY</small>	Nevada <small>STATE</small>
89052 <small>ZIP CODE</small>	5. RESERVED

6. RADIOACTIVE MATERIAL	7. CHEMICAL AND/OR PHYSICAL FORM	8. MAX QTY LICENSEE MAY POSSESS AT ANY ONE TIME
A. Any radioactive material permitted by 10 CFR 35.100	A. Any	A. As needed
B. Any radioactive material permitted by 10 CFR 35.200; except generators and gases	B. Any	B. As needed
C. Iodine-131	C. Sodium iodide capsules	C. 600 millicuries (mCi) (22.2 gigabecquerels (GBq)); 200 mCi (7.4 GBq) per dose
D. Samarium-153	D. Liquid	D. 300 mCi (11.1 GBq); 100 mCi (3.7 GBq) per dose
E. Strontium-89	E. Liquid	E. 24 mCi (888 megabecquerels (MBq)); 4 mCi (148 MBq) per dose
F. Any radioactive material permitted by 10 CFR 35.65	F. Any form permitted by 10 CFR 35.65	F. As permitted in 10 CFR 35.65

¹ NRS 459.030; NAC 459.196



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Radioactive Materials License

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03-12-0568-01

LICENSE NUMBER

51

AMENDMENT NUMBER
(AMENDED IN ITS ENTIRETY)

9. AUTHORIZED USE

A

ITEM

For uptake, dilution or excretion study as permitted by 10 CFR 35.100.

PURPOSE

B

ITEM

Any imaging and localization studies, including Positron Emission Tomography (PET) permitted by 10 CFR 35.200.

PURPOSE

C

ITEM

For any iodine-131 use permitted by 10 CFR 35.300.

PURPOSE

D and E

ITEM

For palliation of bone pain in patients with metastatic bone cancer as permitted by 10 CFR 35.300.

PURPOSE

F

ITEM

Calibration, check and reference sources as authorized by 10 CFR 35.65.

PURPOSE

Conditions

10. Radioactive material shall be stored and used only at the licensee's facilities located at 2811 West Horizon Ridge Parkway, Henderson, Nevada 89052.
11. A. The Radiation Safety Officer (RSO) for activities authorized by this license shall be Leman Marshall, BS, CNMT, RT (N)(R).
- B. The Alternate RSO for activities authorized by this license shall be Kevin C. Hyer, M.D. and Keir F. Hales, M.D.



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Radioactive Materials License

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03-12-0568-01

LICENSE NUMBER

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Conditions, continued

12. Radioactive material identified in Items 6, 7 and 8 shall be used only by, or under the supervision of, the following individuals:

AUTHORIZED USERS	AUTHORIZED USES
Rajneesh Agrawal, M.D.	10 CFR 35.100, 35.200, 35.65
Karen Alderfer, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Shahrokh Asseml, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Paul D. Bandt, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Sudipkumar K. Bhanderi, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Kandarp Bhatt, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Elan D. Bomsztyk, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Michael A. Carducci, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Thomas E. Costello, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Howard Francols, M.D.	10 CFR 35.100, 35.200, 35.300 (I-131 \leq 33mCi), 35.65
Dina R. Gabaeff, M.D.	10 CFR 35.100, 35.200, 35.65
Ashok K. Gupta, M.D.	10 CFR 35.100, 35.200, 35.65
Keir F. Hales, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Jonathan Harrison, M.D.	10 CFR 35.100, 35.200, 35.300 (I-131 $>$ 33mCi), 35.65
Perry Horwich, M.D.	10 CFR 35.100, 35.200, 35.65
Armen A. Hovanessian, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Stephen L. Hoyer, M.D.	10 CFR 35.100, 35.200, 35.65
Frank K. Hsu, M.D.	10 CFR 35.100, 35.200, 35.65
Kevin C. Hyer, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Kaveh Kardooni, D.O.	10 CFR 35.100, 35.200, 35.300, 35.65
Neil Kaura, M.D.	10 CFR 35.100, 35.200, 35.300 (I-131 $>$ 33mCi), 35.65
Mary Jane P. Magruder, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Viken Manjikian, M.D.	10 CFR 35.100, 35.200, 35.300 (I-131 \leq 33mCi), 35.65
Dianne Mazzu, M.D.	10 CFR 35.100, 35.200, 35.65



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Conditions, continued

12. (continued):

AUTHORIZED USERS	AUTHORIZED USES
Maureen K. McCormack, M.D.	10 CFR 35.100, 35.200, 35.65
Michael A. Mecca, M.D.	10 CFR 35.100, 35.200, 35.65
Eric A. Moldestad, M.D.	10 CFR 35.100, 35.200, 35.65
Benjamin M. Muir, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Van T. Nguyen, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Trey Q. Pham, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
David Plunkett, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Robert B. Poliner, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Chad Poopat, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Joshua Rosenberg, D.O.	10 CFR 35.100, 35.200, 35.65
Morris W. Schaner, D.O.	10 CFR 35.100, 35.200, 35.300, 35.65
Brian E. Schulz, M.D.	10 CFR 35.100, 35.200, 35.300 (I-131≤33mci), 35.65
Michael W. Schunk, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Terence M. Scipione, M.D.	10 CFR 35.100, 35.200, 35.65
Randal G. Shelin, M.D.	10 CFR 35.100, 35.200, 35.65
Sukhjinder P. Singh, M.D.	10 CFR 35.100, 35.200, 35.65
Todd A. Steinberg, M.D.	10 CFR 35.100, 35.200, 35.65
Howard A. Tischler, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Steven L. Topham, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Bruce M. Topper, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Rajashree C. Vyas, M.D.	10 CFR 35.100, 35.200, 35.65
Alan F. Weissman, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65
Lisa K. Wong, M.D.	10 CFR 35.100, 35.200, 35.300, 35.65



Nevada Radiation Control Program
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Conditions, continued

13. A. Individuals exposed to iodine-131 due to a crushed capsule or patient vomiting of a capsule shall participate in a bioassay program. Bioassays shall be performed within six to seventy- two hours after exposure to radioiodine.
- B. Bioassays for iodine-131 shall consist of the measurement of the amount of radioiodine contained in the thyroid compared to a suitable standard.
- C. (1) Thyroid burden of less than 0.04 microcuries (1.48 kilobecquerels (kBq)) of iodine-131 will require no action.
- (2) Thyroid burdens of 0.04 microcuries (1.48 kBq) or greater of iodine-131 shall be investigated as to the circumstances surrounding the uptake. Bioassays shall continue at weekly intervals and the licensee shall restrict the worker from further radioiodine exposure until the burden falls below the levels specified in C. (1).
- D. Records of all bioassay measurements described above will be maintained as part of the personnel dosimetry, retained indefinitely, and be made available for inspection by the Nevada Radiation Control Program (RCP).
14. The licensee shall maintain a current record of sealed sources inventory. The inventory shall list the manufacturer, model and serial number, nuclide, activity, purpose of use, and storage location.
15. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. Nevada Administrative Code (NAC) 459 shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated December 1, and letter dated December 8, 2014, signed by Randal Shelin, M.D., President;
- B. Request dated February 9, 2015, signed by Brian Schulz, M.D., RSO;
- C. Amendment Request dated May 5, 2016, signed by Kelr Hales, M.D., RSO;
- D. Letter dated June 17, 2016, signed by Karen Beckley, Program Manager; and
- E. Letter and amendment request dated July 28, 2016, signed by Leman Marshall, BS, CNMT, RT (N)(R), RSO.


SIGNATURE

January 8, 2018

DATE

Karen K. Beckley, M.P.A., M.S.
Bureau Chief

Close-Out Survey

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

Date Performed: April 24, 2018

Performed by: Angela Burandt, MBA, BS, CNMT, RT(N)

Visual Check

The area was checked to ensure all radioactive material had been removed

Radiation Level Survey

Surveys were performed using a Ludlum 14C survey meter, S/N 167360

Calibration Date: September 2, 2017

Range used: 0-0.02 mR/hr

No area within the room demonstrated radiation levels in excess of the background reading of 0.02 mR/hr

Removable Contamination

Wipe tests were analyzed using a Capintec® 4000e Well counter

Minimum detectable activity = 26 dpm

1 minute counts

Background 287 cpm, 0 dpm

Wipe test results for all areas show a maximum removable contamination of 86 dpm.

See attached Figure 1 and Table 1 for results

Conclusion

No removable contamination is present

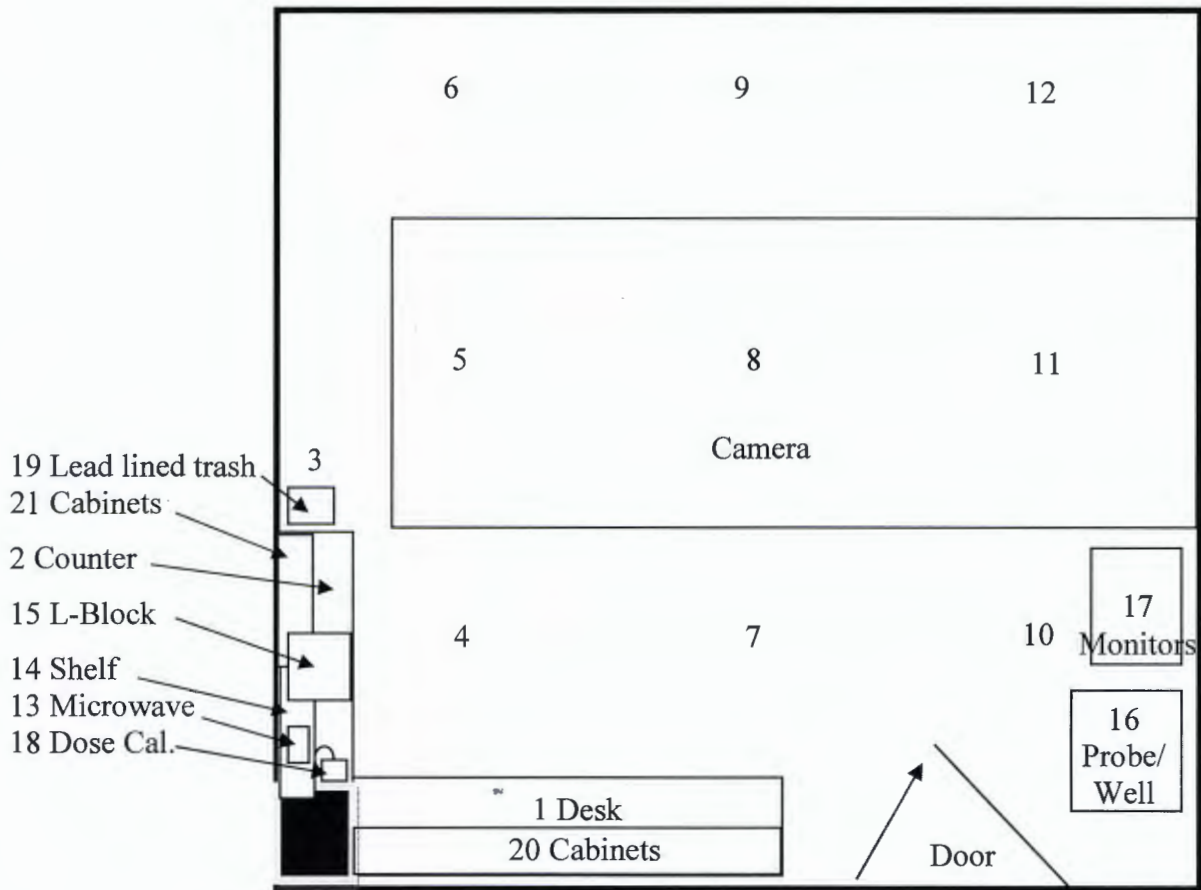


Figure 1. Borgess Lee Memorial Hospital Wipe Test and Survey Areas

Table 1.
Wipe Test and Survey Results

Location/ Description	Activity (dpm)	Survey (mR/hr)	Location/ Description	Activity (dpm)	Survey (mR/hr)
1. Desk	8	0.02	12. Floor.....	42	0.02
2. Counter.....	22	0.02	13. Microwave on shelf.....	0	0.02
3. Hot Storage Area..	46	0.02	14. Shelf above DC/L-Block....	18	0.02
4. Floor.....	9	0.02	15. L-Block	28	0.02
5. Floor.....	41	0.02	16. Probe/Well	37	0.02
6. Floor.....	0	0.02	17. Monitors	25	0.02
7. Floor.....	81	0.02	18. Dose Calibrator	0	0.02
8. Floor.....	46	0.01	19. Lead Lined Trash	86	0.01
9. Floor.....	0	0.01	20. Cabinets above Desk.....	52	0.02
10. Floor.....	18	0.02	21. Cabinets above Counter	0	0.01
11. Floor.....	28	0.02			

BORGESS MEDICAL CENTER

X-RAY DEPT.
1521 GULL ROAD
KALAMAZOO, MI
49048-1640
269-226-4832

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