



**HENRY FORD  
MACOMB HOSPITALS**

**Department of Nuclear Medicine**

15855 Nineteen Mile Rd.  
Clinton Township, Michigan 48038  
Phone: (586) 263-2465  
Fax: (586) 263-2927

DATE: 4-8-09

TIME: 1500

TO: NAME: Materials Licensing Section  
COMPANY: Nuclear Regulatory Commission  
FAX #: 630-829-9782

COMMENTS: Attached is a request for a license amendment to add Brett M. Miller, M.S. as an Authorized Medical Physicist. Supporting documentation is attached.

FROM: NAME: Michael E. Ward  
DEPT: Nuclear Medicine  
FAX #: 586-263-2927

TOTAL # OF PAGES INCLUDING COVER LETTER: 11

IF YOU DID NOT RECEIVE ALL THE PAGES, PLEASE CALL:

NAME: Michael E. Ward  
PHONE: 586-263-2465

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## HENRY FORD MACOMB HOSPITALS

15855 Nineteen Mile Road  
Clinton Township, Michigan 48038  
(586) 263-2300

April 7, 2009

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

**Re: License No. 21-11850-01**

Please amend our license to add Brett M. Miller, M.S. as an Authorized Medical Physicist. Mr. Miller is listed as an Authorized Medical Physicist on NRC Radioactive Material License No. 21-26632-01. Documentation is enclosed for your review.

Please remove Iris Ouyang, M.S. and Qing Chen, M.S. as Authorized Medical Physicists from our license.

Thank you for your cooperation with this matter.

If you have any questions or require additional information, please contact our physicist, Indrin Chetty, PhD at (office: 313-916-3922 or cell: 734-752-7150).

Sincerely,

A handwritten signature in cursive script that reads "Barbara W. Rossmann".

Barbara W. Rossmann  
President and Chief Executive Officer

## Brett M. Miller, M.S.

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**Business Address:**

Providence Cancer Center  
22301 Foster Winter Drive  
Suite 100  
Southfield, MI 48075  
Phone: (248) 849-8626  
Fax: (248) 849-8448

**Home Address:**

1877 Franklin Rd.  
Berkley, MI 48072  
Phone: (248) 336-9075  
Mobile: (248) 842-6254

Email: [bmill\\_1@yahoo.com](mailto:bmill_1@yahoo.com)

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### EDUCATION

**Oakland University, Rochester, MI**

August 1996 to December 1999. Ph.D. candidate, Medical Physics.

Passed qualifying exam for Ph.D. candidacy in Biomedical Sciences: Medical Physics, October 1997.

**Iowa State University, Ames, IA**

August 1994 to July 1996. Master of Science, Physics.

**Miami University, Oxford, OH**

August 1990 to May 1994. Bachelor of Science, Physics and Aeronautics.

### EXPERIENCE

**Providence Hospital, Cancer Institute, Southfield, MI.**

April 2000 to Present. *Radiation Physicist.*

**External Beam Radiation Therapy**

- IMRT Treatment Planning – Prostate, Brain and Head and Neck
- IMRT Commissioning for a Varian 21EX linear accelerator and the University of Michigan treatment planning system.
- Acceptance Testing and Commissioning of a GE LightSpeed RT16 CT scanner and Advantage SIM MD Workstation.
- CT/SIM Coordinator for the planning of new CT/SIM room.
- Commissioning of ABC program. Currently treating left sided breast patients with future plans to move to other sites.
- Annual and monthly quality assurance on a Varian 2100 C/D linear accelerator and a Varian 21EX linear accelerator incorporating TG-21, TG-51, TG-40 and NCRP-69 protocols.
- Acceptance Testing and Commissioning of a Varian 21EX linear accelerator with a millennium MLC and PortalVision aS500 system.
- Administration and support of VARIs on a Varian 2100CD and a Varian 21EX linear accelerators.

- Administration and support of Varian PortalVision aS500 system on Varian 2100CD and Varian 21EX linear accelerators.
- Assisting in the implementation of treatment aids, such as breast boards and immobilization systems.
- Monitor unit calculation verification, physics chart checks and special measurements.
- Participation in weekly chart rounds involving discussions with radiation oncologists, dosimetrists, and therapists concerning patients' charts and treatments.
- Ion chamber and diode dosimetry using Wellhofer and Multidata scanning watertanks.
- Converted the annual, monthly, and daily quality assurance protocols to electronic form using the Argus software.
- Monthly QA on a Philips (formerly Picker) CT scanner.

### **Brachytherapy**

- Treatment planning, dosimetry, and delivery of intracavitary HDR brachytherapy treatments using the Varian BrachyVision 3D Treatment Planning Software and GammaMed12i Treatment Unit. (gynecological, esophageal, bronchial, mammosite)
- Treatment planning, dosimetry, and delivery of intracavitary HDR brachytherapy treatments using the GammaMed Abacus Treatment Planning Software and GammaMed12i Treatment Unit. (gynecological, esophageal, bronchial, mammosite)
- Acceptance Testing and Commissioning of brachytherapy applicators and computers to upgrade HDR treatment process.
- Monthly, source exchange, and treatment day quality assurance performed on a GammaMed12i Treatment Unit.
- Treatment planning, dosimetry, and delivery of intravascular brachytherapy treatments using the Galileo III system from Guidant.
- Pre-treatment planning, dosimetry, delivery and post-treatment planning (using CT and MR images) for LDR brachytherapy treatments using I-125 seeds (Nycomed Amersham, Model 6711). Treatment planning is currently done using Variseed and was previously done with the U of M in-house system. (prostate, brain).
- Maintenance of a source room including logbooks, monitoring equipment and radiation surveys.

### **William Beaumont Hospital, Department of Radiation Oncology, Royal Oak, MI.**

May 1997 to March 2000. *Medical Physics Research and Clinical Assistant.*

#### **External Beam Radiation Therapy**

- Annual and monthly quality assurance on an Elekta Oncology Systems SL-20 linear accelerator incorporating TG-21, TG40 and NCRP-69 protocols.
- Ion chamber and diode dosimetry using Wellhofer and Multidata scanning watertanks.
- Research and development of prostate and breast IMRT treatment techniques.
- Film and ion chamber dosimetry for QA and commissioning the IMRT process.
- Limited experience in machine commissioning and treatment planning for radiosurgery.

## **PROFESSIONAL ORGANIZATIONS AND CERTIFICATIONS**

### **American Board of Radiology**

Diplomat of the American Board of Radiology

Completed Part III, June 2004 – *Oral Board Certification Examination – Therapeutic Radiologic Physics*

**American Board of Medical Physics**

Completed Part II, July 2002 – *Written Board Certification Examination – Radiation Oncology Physics*

Completed Part I, July 2001 – *Written Board Certification Examination – General Medical Physics*

**American Association of Physicists in Medicine.** 2000 – Present.

**Great Lakes Chapter, AAPM.** 2000 – Present

**GRADUATE RESEARCH**

**May 1997 to December 1999.** William Beaumont Hospital, Department of Radiation Oncology, Royal Oak, MI. Research performed in Medical Physics and support of clinical modalities.

**May 1996 to July 1996.** Iowa State University, Department of Physics  
Ames, IA. Studied the structure of  $\text{Li}_4\text{XeO}_6\text{-H}_2\text{O}$  using NMR Spectroscopy.

**UNDERGRADUATE RESEARCH**

**August 1993 to May 1994.** Miami University, Department of Physics, Oxford, OH.  
Development of an automated system designed to measure the two-beam coupling effect in photorefractive materials.

**August 1991 to May 1993.** Miami University, Department of Aeronautics, Oxford, OH.  
Development of a low cost supersonic wind tunnel.

**May 1992 to August 1992.** University of Toledo, Department of Physics, Toledo, OH.  
Selected to participate in the National Science Foundation funded Research Experiences for Undergraduates program. Measured electrical transport properties of CdS and CdTe thin films for photovoltaic applications.

**TEACHING EXPERIENCE**

**March 1997 to March 2000.** Test Preparation Services, Auburn Hills, MI. Preparatory course for the physics section of the Medical College Admissions Test and the perceptual ability section of the Dental Admissions Test.

**August 1996 to May 1997.** Teaching Assistant, Department of Physics, Oakland University, Rochester, MI. PHY 158, General Physics Laboratory.

**August 1994 to May 1996.** Teaching Assistant, Department of Physics and Astronomy, Iowa State University, Ames, IA. PHY 111-2, General Physics and General Physics Laboratory.

**August 1993 to May 1994.** Teaching Assistant, Department of Physics, Miami University, Oxford, OH. PHY 183-4, Physics Laboratory.

## **PUBLICATIONS**

P. W. McLaughlin, M.D., V. Narayana, Ph.D., D.G. Drake, M.S., **B. M. Miller, M.S.**, L. Marsh, A.A.M.D., J. Chan, M.D., R. Gonda Jr., M.D., R.J. Winfield, M.D. and P.L. Roberson, Ph.D., "Comparison of MRI Pulse Sequences in Defining Prostate Volume after Permanent Implantation." *IJROBP*. **54:3**, 703-711. (2002)

Y. Wu, D. Yan, M. B. Sharpe, **B. Miller**, and J. W. Wong, "Implementing multiple static field delivery for intensity modulated beams." *Medical Physics*. **28**, 2188-2197. (2001)

M. B. Sharpe, **B. M. Miller**, J. W. Wong, "Compensation of X-Ray Penumbra on Conformal Radiation Therapy." *Medical Physics*. **27**, 1739-1746. (2000)

M. B. Sharpe, **B. M. Miller**, D. Yan, and J. W. Wong, "Monitor Unit settings for intensity modulated beams delivered using a step-and-shoot approach." *Medical Physics*. **27**, 2719-2725. (2000)

Y. Wu, D. Yan, M. B. Sharpe, **B. M. Miller**, J. W. Wong, "A method of generating multiple static fields and delivering intensity modulated radiotherapy." *Medical Physics*. **26**, 1137. (1999)

## **ABSTRACTS AND PRESENTATIONS**

**B. M. Miller**, V. Narayana, P. McLaughlin, "Assessment of Prostate Position During External Beam Treatments for Patients Post Brachytherapy Implantation." Presented at the AAPM annual meeting, Seattle, Washington, 2005.

L. Tyburski, L. Kestin, M. B. Sharpe, D. Yan, **B. M. Miller**, R. Frazier, A. Martinez, F. Vincini, J. W. Wong, "An efficient method to improve dose uniformity for tangential breast radiotherapy using multiple MLC segments." Presented at the ASTRO annual meeting, Phoenix, Arizona, 1999.

Y. Wu, D. Yan, M. B. Sharpe, **B. M. Miller**, J. W. Wong, "A method of generating multiple static fields and delivering intensity modulated radiotherapy." Presented at the annual AAPM meeting, Nashville, Tennessee, 1999.

**B.M. Miller**, M.B Sharpe, D. Yan, Y. Wu, J. W. Wong, "Monitor unit settings for IMRT fields delivered with an MLC," Presented at the AAPM annual meeting, San Antonio, Texas, 1998.

**B. M. Miller**, R. G. Bohn, "NSF Research Experiences for undergraduates Summer Project: 1.Measuring Electrical Transport Properties of Polycrystalline Films." Presented at the Twenty-Third IEEE PVSC Louisville, Kentucky, 1993.

## **PERSONAL**

**Date of Birth:** March 29, 1972.

**Hobbies and Interests:** Computers, politics, finance, sports, exercise, socializing.

## **REFERENCES**

References and academic transcripts available on request.

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, ILLINOIS 60532-4362

OCT 07 2008

Vrinda Narayana, Ph.D.  
Radiation Safety Officer  
Providence Hospital  
Providence Cancer Center  
22301 Foster Winter Drive  
Southfield, MI, 48037

Dear Dr. Narayana:

Enclosed is Amendment No. 09 to your NRC Material License No. 21-26632-01 in accordance with your request. Please note that the changes made to your license are printed in **bold font**.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

NRC's Regulatory Issue Summary (RIS) 2005-31 provides criteria to identify security-related sensitive information and guidance for handling and marking of such documents. This ensures that potentially sensitive information is not made publicly available through ADAMS, the NRC's electronic document system. Pursuant to NRC's RIS 2005-31 and in accordance with 10 CFR 2.390, the enclosed license document is exempt from public disclosure because its disclosure to unauthorized individuals could present a security vulnerability. The RIS may be located on the NRC Web site at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2005/ri200531.pdf> and the link for frequently asked questions regarding protection of security related sensitive information may be located at: <http://www.nrc.gov/reading-rm/sensitive-info/faq.html>. A copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). The NRC's document system is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

A handwritten signature in black ink, appearing to read "Toye L. Simmons".

Toye L. Simmons  
Materials Licensing Branch

License No. 21-26632-01  
Docket No. 030-33776

Enclosure: Amendment No. 09

**Official Use Only - Security-Related Information**

The enclosed document contains sensitive security-related information.  
When separated from this cover letter this letter is uncontrolled.

Official Use Only - Security-Related Information

NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 3 PAGES  
Amendment No. 09

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 36, 35, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee

- 1. Providence Hospital  
Providence Cancer Center
- 2. 22301 Foster Winter Drive  
Southfield, MI 48075

In accordance with application and letter dated July 22, 2008,

3. License number 21-26632-01 is amended in its entirety to read as follows:

4. Expiration date December 31, 2010

5. Docket No. Q30-33778  
Reference No. 7

6. Byproduct, source, and/or special nuclear material

A. Iridium-192

B. Uranium depleted in Uranium-235

Chemical and/or physical form

A. Sources (RTS Technology Model 721 or Vector)

B. Uranium depleted in Uranium-235

8. Maximum amount that licensee may possess at any one time under this license

A. One source not to exceed 12 curies and one source not to exceed 8 curies for a total of 20 curies

As needed

9. Authorized use:

- A. One source to be used in a MDS Nordlon (formerly Isotopen-Technik) GammaMed 12i HDR remote afterloading brachytherapy unit for interstitial and intracavitary radiotherapy. One source in its shipping container to be in possession of the licensee as necessary for replacement of source in the irradiation device.
- B. Shielding in a MDS Nordlon (formerly Isotopen-Technik) GammaMed 12i high dose rate remote afterloading brachytherapy device.

CONDITIONS

- 10. Licensed material shall be used only at the licensee's facilities located in Room 101, Providence Hospital, Radiation Oncology Department, 22301 Foster Winter Drive, Southfield, Michigan.

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U.S. NUCLEAR REGULATORY COMMISSION

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MATERIALS LICENSE SUPPLEMENTARY SHEET

License Number 21-28632-01

Docket or Reference Number 030-33776

Amendment No. 09

- 11. The Radiation Safety Officer for this license is Vrinda Narayana, Ph.D.
- 12. A. Licensed material listed in Item 6 above is only authorized for use by, or under the supervision of, the following individuals for the materials and uses indicated:

Authorized Users

Material and Use

Patrick William McLaughlin, M.D.	Iridium-192 in MDS Nordion (formerly Isotopen-Technik) GammaMed 12i HDR remote afterloading brachytherapy unit.
Laura Freedman, M.D.	Iridium-192 in MDS Nordion (formerly Isotopen-Technik) GammaMed 12i HDR remote afterloading brachytherapy unit.
June L. Chan, M.D.	Iridium-192 in MDS Nordion (formerly Isotopen-Technik) GammaMed 12i HDR remote afterloading brachytherapy unit.
Janice LeRouere, M.D.	Iridium-192 in MDS Nordion (formerly Isotopen-Technik) GammaMed 12i HDR remote afterloading brachytherapy unit.
Michelle Mierzwa, M.D.	Iridium-192 in MDS Nordion (formerly Isotopen-Technik) GammaMed 12i HDR remote afterloading brachytherapy unit.



B. HDR Brachytherapy Physicists: Peter L. Roberson, Ph.D., Vrinda Narayana, Ph.D. and Brett M. Miller, M.S.

- 13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
- 14. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee.
- 15. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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U.S. NUCLEAR REGULATORY COMMISSION

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MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License Number  
21-26632-01

Docket or Reference Number  
030-35776

Amendment No. 09

16. 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. This license condition applies only to those procedures that are required to be submitted in accordance with the regulations. Additionally, this license condition does not limit the licensee's ability to make changes to the radiation protection program as provided for in 10 CFR 35.26. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated June 15, 2000 (with attachments, excluding QMP and requests to name Brett M. Miller, M.S. and Douglas B. Drake, M.S. as HDR physicists), and September 17, 2000; and
  - B. Letters dated June 16, 2000, September 17, 2000, October 15, 2000, November 13, 2000, February 5, 2001, July 22, 2008.



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date OCT 07 2008

By *Toye L. Simmons*  
 Toye L. Simmons  
 Materials Licensing Branch  
 Region III

NO. 396 P. 2

# The American Board of Radiology

Organized through the cooperation of the  
American College of Radiology, the American Roentgen Ray Society,  
the American Radium Society, the Radiological Society of North America,  
the Section on Radiology of the American Medical Association,  
the American Society for Therapeutic Radiology and Oncology, the Association of  
University Radiologists, and American Association of Physicians in Medicine

Nowby certifies that

**Brett Michael Miller, MS**

Has pursued an accepted course of graduate study  
and clinical work, has met certain standards and qualifications and  
has passed the examinations conducted under the authority of  
The American Board of Radiology

On this ninth day of June, 2004

Thereby demonstrating to the satisfaction of the Board  
that he is qualified to practice the specialty of

**Therapeutic Radiologic Physics**



Certificate No. 73222

*William J. ...*  
President

*Ray O. Wilson*  
Secretary

*ER. ...*  
Executive Director



Valid through 2004

MAY 30 2009 4:02PM RADIATION ONCOLOGY