



Robert Packer Hospital
One Guthrie Square
Sayre, PA 18840-1698
Tel 570.888.6666

February 7, 2005

Sandra Gabriel, Health Physicist
Nuclear Regulatory Commission
Division of Nuclear Materials Safety
465 Allendale Road
King of Prussia, PA 19406-1415

RE: Amendment to Materials License 37-01893-01 03003013

Dear Sandy,

I am writing to request a license amendment, in accordance with NRC Regulations, to add Mahmoud M. Hammoudah, PhD. as an authorized Medical Physicist for material and use of Iridium-192 in a high dose remote afterloader unit for calibrations, spot-checks, and training.

Dr. Hammoudah's effective date will be March 1, 2005. He is scheduled for training on the Nucletron Microselectron Model 105.000 remote afterloader unit on March 3, 2005. Enclosed are excerpts from Dr. Hammoudah's credentials file including his CV, American Board of Radiology Credential in Therapeutic Radiological Physics, and American Board of Medical Physics Credential in Medical Physics. I have included other supporting documentation as well.

I am additionally requesting the removal of William F. Kendall as an authorized Medical Physicist from the license. Also, please remove Jian (Jason) H. Chen as an authorized Medical Physicist, effective March 11, 2005.

Please do not hesitate to contact me with any additional questions. I would appreciate an expedited review of the amendment request.

Sincerely,

A handwritten signature in cursive script that reads 'Mary N. Mannix'.

Mary N. Mannix, FACHE
Sr. Vice President, COO

cc: Asaf Durakovic, MD, RSO
Steve Nagar, RSC
Gary Proulx, MD
Bonnie Onofre
Theresa Sargent

ROBERT PACKER HOSPITAL
Sayre, Pennsylvania

DEPARTMENT OF RADIATION ONCOLOGY

NAME: M. M. Hammoudah, Ph.D, ABR.

Certification Status:

Board Certified DABR Yes + DABMP

Board Eligible DABR

Are you able to be on an NRC license?

Yes ☒ No ☐

Are you currently on an NRC license? or Equiv.

Yes ☒ No ☐

If so, please provide the name of the facility

Is there any reason you could not be on

Guthrie Healthcare System's NRC license?

Emergency Management Agency
Division of Nuclear Safety

Yes ☐ No ☒

If yes, Why

RADIATION ONCOLOGY SERVICES

Philips, Pinnacle3, P3IMRT, AcB Sim 3 ?
ADAC Pinnacle 6.2 m for 2D/3D, NO Eclipse, XIO

EXPERIENCE

(please indicate Yes or No)

NOMOS Corvus for IMRT plans

NO

PLATO V2 for Brachytherapy

NO

Nucletron HDR Remote Afterloader

Model # 105.999

☒ GYN

☒ Mammosite

☒ Interstitial implants

Yes

Variseed Real-time Prostate seed implant

Yes

Lantis Record and Verify

NO

Other Record and Verify system

VARIS

Sun Nuclear

2 RBA Explain Please ?

☒ Diode

Radiation Beam Analyser (Profiler)

IMPAC

M. M. Hammoudah
Signature of Applicant

01/15/2005
Date

M. HAMMOUDAH, Ph.D.

[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

EMPLOYMENT HISTORY:

- Oct & Nov 2004 **Clinical Physicist**
Davis Memorial Hospital Of Elkins, West Virginia
- 1988 to Oct 2004 **Consultant Medical Physicist In USA and Overseas**
 Methodist Hospitals, North Lake Campus, Radiation
 Oncology Gary, IN
 Methodist Hospitals, Southlake Campus, Radiation
 Oncology, Merrillville, IN
 King Abdulaziz Hospital, Oncology Center, Jeddah, Saudi
 Arabia
 Diagnostic Outpatient Center, Radiation Oncology, Hobart,
 IN
 Porter County Cancer Treatment Center, Valparaiso, IN
 Michiana Cancer Treatment Center, Michigan City, IN.
- April 1987 to June 1988 The Chicago Medical School, Physiology and Biophysics
 Department, University of Health Sciences, North Chicago,
 IL. Faculty and Radiation Oncology Physicist
- April 1987 to June 1988 Edgewater Hospital, Radiology Department, Radiation
 Oncology, Chicago IL
- June 1985 to Nov. 1985 Temple University, Radiation Oncology Department,
 School of Medicine, Philadelphia, PA. Faculty and
 Radiation Therapy Physicist
- 1983 Ohio Valley Medical Center, Radiation Oncology,
 Wheeling, WV
- 1981 St. Joseph Hospital and Tumor Treatment Service
 Corporation, Radiation Oncology Department, Chicago IL
- 1974 to 1977 Howard University, College of Medicine, Radiotherapy
 Department. Faculty and Clinical Radiation Senior Physicist,
 Washington, D.C.
- 1962 to 1974 Ain Shams University, College Of Medicine and Atomic Energy
 Agency, Rdiology Departments, Cairo, Egypt

PERSONAL INFORMATION WAS REMOVED
 BY NRC. NO COPY OF THIS INFORMATION
 WAS RETAINED BY THE NRC.

PUBLICATIONS

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A.

EDUCATIONAL INFORMATION

Medical School, Faculty of Health Sciences, State University of New York at Buffalo (SUNYAB), Buffalo, NY. Doctor of Philosophy (Ph.D.) in Biophysics, February 1980
Manitoba University, Winnipeg, Manitoba, Canada MS, Medical Physics, 1974
Oncological Institute, Prague, Czechoslovakia Diploma, Clinical Radiophysics (D.C.R.P.), 1966
Ain Shams University, Cairo Egypt Diploma, Radiation Physics (D.R.P.), 1964
Cairo University, Cairo, Egypt BS, Physics and Chemistry, 1962

CERTIFICATES:

- American Board of Medical Physics, Certification in Medical Physics with special competence in Radiation Oncology Physics, 1991
- American Board of Radiology, Certification in Therapeutic Radiological Physics, 1986
- Radiological Health Division, Office Of Environmental Health services Of State Of West Virginia Registration For Shielding Design, Health Physics Consulting, Diagnostic Radiation Machine Evaluation and Therapy Machine Evaluation, 2004
- Department of Nuclear Safety, State of Illinois Certification as a non-departmental qualified X-ray Inspector, 1988
- Indiana State Board of Health, Radiological Health Section Certification, as a Radiation Therapy Physicist, a Radiation or Health Physicist, and as an X-ray Machine Physicist, 1988
- Radioactive Material Authorization Number RP-4 from the Joint Radioisotope Committee, SUNYAB, NYS License Number 1049, 1979
- The Texas Department of Health Resources Certificate as a Radiological Defense Officer, Austin ,Texas, 1977
- Department of Labor Certificate as a Clinical Radiation Senior Physicist, 1976
- I.A.E.A. certificate in the field of Medical Physics, Radiation Dosimetry, 1973

SOCIETIES:

Active Member Of:

American Association of Physicists in Medicine (AAPM). Midwest Chapter of the AAPM.
American College of Radiology (ACR)
Illinois Radiological Society (IRS)
Chicago Radiological Society (CRS)

Important Knowledge, Skills, and Abilities:

1. Extensive training and experience in clinical radiation Therapy Physics such as dose computation, isodose plans, wedge fields, rotation fields, radioisotope calculation, etc.
2. Professional knowledge of experimental dosimetry and high level of accuracy in calibrating high energy machines with photon and electron capabilities (such as Brown

PUBLICATIONS

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- A. Boveri Betatrons, Siemens, Varian, and Phillips Linear Accelerators), teleisotopes, and orthovoltage machines.
- 3. Completion and analysis of the acceptances test procedures ,specifications and safety of the high-energy machines, teleisotopes, and orthovoltage machines.
- 4. Qualified Health Physicist: Professionally engaged in radiation protection and have the knowledge and training to advise regarding radiation protection needs, to measure ionization radiation and to evaluate safety techniques.
- 5. Qualified Expert on radiation shielding, having the knowledge and training to undertake The analysis and design of a radiation shielding system
- 6. Quality assurance and inspection of diagnostic X-Ray machines.
- 7. Strong abilities to suggest and perform useful applied research project and interest to analyze and submit the results for publication.
- A. The development and modification of the primary standard Fricke Dosimeter. In this development new simple irradiation containers were found and are used without any physical or chemical pretreatment. The laborious pretreatment can be avoided and the time of the sample preparation has been enormously reduced.
- B. The remarkable quality of supervoltage beam films achieved has improved the accuracy of localization in the practice of radiotherapy. They have even been of diagnostic value in many instances. This technique meets the national and international application, since it was published in 1977 and up to this date.
- C. Promotion of fusion process in liposomes which has strong impact on present and future studies of clinical aspects of drug delivery
- 8. Teaching and training for Physicist, Residents and Technologists.
- 9. Thesis advisor for Shadia Al-Baz, MS, 1987, Department of Physics, DePaul University. Thesis: "Experimental Comparison of Doses from High Energy Photon and Electron Beams by Two Protocols."
- 10. Post Master Training for Daniel Mammo, MS, 1986, Radiation Therapy Department, St Frances Medical Center, Chicago, IL.

References Available upon Request

PUBLICATIONS

4

A.

PUBLICATION

A. Thesis and Dissertation

1. Diploma thesis entitled, "Photographic Film Dosimetry". 1964
2. Master thesis entitled, "Radiation Dosimetry for Fast Electrons." 1974
3. Doctoral dissertation entitled, "Binding Specificity of Lanthanides to Phosphatidyle Serine (PS) Vesicles and Induction of Fusion and Phase Changes". 1980

B. Articles

1. Mahrous, M., Hamed, H. and M. Hammoudah, "The Design of a Dose-Rate Meter based on an Amplitude Modulated D.C. Amplifier", Egyptian Journal of Nuclear Sciences and Application, 1, 1, (1968), 20-25.
2. Hammoudah, M. and U. Henschke, "Supervoltage Beam Films", Int. J. Radiation Oncology Biol. Phys., 2, (1977), 371-577.
3. Hammoudah, M. and G. Osman, "Influence of Collimator Design on Central Axis Depth Dose of 10-40 MeV Electron Beams", Journal of Medicine, 8, Nos. 3 & 4, (1977), 219-237.
4. Hammoudah, M. and G. Osman, "Modification in Chemical Dosimetry for Electron Treatments", Isotope and Radiation Research, 10, 1 (1978), 1-9.
5. Hammoudah, M. "Influence of Collimator design on the Shape of Isodose Curves in High Energy Electron Beams", Journal of Medicine, 10, 6, (1979), 467-479.
6. Hammoudah, M., Isac, T Korngauser, R., Stewart, T., Hui, S., and W. Vaz. "Interaction of La with Phosphatidyl Serine Vesicles: Binding Phase Transition, Leakage and Fusion", Biochemica et Biophysica Acta, 558 (1979), 338-343.
7. Kurland, R., Hammoudah, M., Nir, S., and D. Papahadjopoulos, "Binding of Ca^{2+} and Mg^{2+} to Phosphatidyl Serine Vesicles: Different Effects on P31 NMR Shifts and Relaxation Times", Biochemical and Biophysical Research Communications, 88, 3, (1979), 927-932.

PUBLICATIONS

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A.

8. Hammoudah, M., and G., Osman, "Determination of $C\lambda$ and CE for Dose Measurements in High Energy Electron and Photon Beams Isotope and Radiation Research, 12, 1, (1980), 1-7.
9. Hammoudah, M., Nir, S., Bentz, J., Mayhew, E., Stewart, T., Hui, S., and R. Kurland, "Interaction of La^{3+} with Phosphatidyle Serine Vesicles: Binding, Phase Transition, Leakage, 31 p Me and Fusion. Biochemica et Biophysica Acta, 645, (1981), 102-114.
10. Hammoudah, M., Use of Fricke and Ionization Chamber Dosimeters in Calibrating Fast Electrons. Submitted for publication to Medical Physics, Publication Reference No 217.

C. Abstracts, Conferences, and Exhibits

1. Hammoudah, M., Holloway, A. F. and D.V. Cormack: Use of Calibrated Ionization Chambers for the Determination of Absorbed Dose in High Energy Electron Beam. Physics in Canada 29, 11, 1973 CAP Annual Meeting Issue, Montreal, Canada (1973).
2. Henschke, U., Kumar, P., Goldson, A., Hammoudah, M., and J. Nibhanupudy: Accessories for Linear Accelerator. Scientific Exhibit RSNA, 61 Scientific Assembly, Chicago, (November 30 -December 4, 1975).
3. Hammoudah, M., and U. Henschke: Film Foil combination for Therapy Localization Films. Physics in Canada, 32, 4.3, 1976, Digest of the Fourth International Conference of Medical Physics (1976)
4. Participation in a large group: Tricks and Treats for Treatment Feats: Scientific Exhibit, RSNA, 62, Scientific Assembly, Chicago, Illinois (November 14-19, 1976).
5. Hammoudah, M., and G. Osman: Influence of Collimator Design on the Shape of Isodose Curves in High Energy Electron Beams. Medical Physics, 4, 350, AAPM Annual Meeting Issue, Cincinnati, Ohio (1977).
6. Hammoudah, M., Nir, S., and J. Bentz: Effect of Cations on Phase Transition of Phosphatidyl Serine: Competition and Synergism. Biophysical J. 25, 261a (1979). Paper presented at the 23rd Annual Meeting of the Biophysical Society, Atlanta, Georgia (February 20-28, 1979).
7. Hammoudah, M., Binding Specificity of Lanthanides to Phosphatidyl Serine (PS) Vesicles and Induction of Fusion and Phase Changes. Dissertation Abstract International 41/03, Publication No. 80-16, 194 (1980).

PUBLICATIONS

6

A.

8. Hammoudah, M., Practical Dosimetrical Evaluation of High Energy Radiation Used in Radiotherapy. Joint Meeting of the Midwest Chapter and the North Central Chapter of the AAPM, St. Francis Hospital, Evanston, Illinois (February 14, 198
9. Hammoudah, M.: CA and CE Values by $FeSO_4$ Dosimetry Using New irradiation Vessels. Midwest Chapter of the AAPM Meeting, Rush-Presbyterian St. Luke's Medical Center, Chicago, Illinois (May 30, 1981).
10. Hammoudah, M. and U. Henschke: High Energy Radiation Treatment Verification Port Films. Midwest Chapter of the AAPM Meeting, Highland Park Hospital, Highland Park, Illinois (May 22, 1982.)

M. HAMMOUDAH, Ph.D.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

RADIATION
PHYSICIST

Practiced and supervised physics quality assurance for radiation therapy facilities, including radiation dosimetry, treatment planning, treatment machines, and radiation safety.

HEALTH PHYSICIST

Implemented emergency planning, ALARA, dose assessment programs audits, and radiation measurements. Planned and supervised working radiation areas and handling of radioactive materials.

TEACHING

Developed and used variety of educational and training programs for physicist, radiology residents, and technologists.

RESEARCH/DEVELOP-
MENT

Finalized intensive investigations directed toward the development of new scientific knowledge in medical physics and biophysics. One dissertation, two theses, nine publications, ten accepted abstracts, conferences, and exhibits.

ADMINISTRATION
MANAGEMENT

Directed and adopted scientific programs, their funding, and allocation of organizational resources. Studied and projected present and future organizational needs. Formulated alternative policies and ways of meeting those needs.

WORK HISTORY

Medical Radiation Physicist, 30 years.

PERSONAL INFORMATION WAS REMOVED
BY NRC. NO COPY OF THIS INFORMATION
WAS RETAINED BY THE NRC.

The University of Manitoba

on the recommendation of the Senate
has conferred on

Mahmoud Mohamed Hassan Hammoudah

who has completed all the requirements therefor
the Degree of

Master of Science

with all the rights and privileges thereto appertaining.

In Testimony Whereof The University of Manitoba has caused its seal to be affixed
hereunto attested by the signatures of its proper officers in that behalf on this
sixteenth day of October, one thousand nine hundred and seventy-four.

"OFFICIAL SEAL"
LAYERNE HULDEN
Notary Public, State of Illinois
My Commission Expires 3-2-98

Subscribed and sworn to before me
this 28th day of August 1975
[Signature]
Notary Public
Commission Expires 5/19/98

R. J. Bowles
Registrar



[Signature]
Vice-Chancellor
[Signature]
Registrar

DR. MAHMOUDAH

630-663-1587

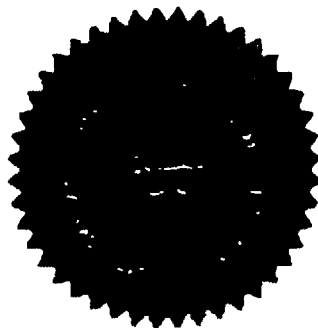
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FEB-08-2005 14:44

THE AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE



This certifies that
Mahmoud M. Hammoudah, Ph.D.
was elected a
MEMBER
of this Association
on January 1, 1976





PRESIDENT

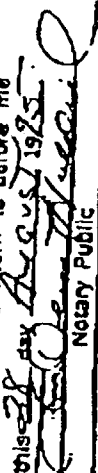


SECRETARY



Subscribed and sworn to before me

this 28 day August 1972



Notary Public

"OFFICIAL SEAL"

LAVERNE HULDEN

Notary Public, State of Illinois

My Commission Expires 12/31/73

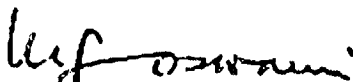


INTERNATIONAL ATOMIC ENERGY AGENCY FELLOWSHIP PROGRAMME

THIS IS TO CERTIFY THAT

Mr. Mahmoud HAMOUDAH

HAS COMPLETED TRAINING AT The Manitoba Cancer Treatment and Research
Foundation, Canada
 IN THE FIELD OF Medical Physics (Radiation Dosimetry)

FROM 2 October 1972TO 3 October 1973


U. I. OSWAMI
 Deputy Director General
 Department of Technical Assistance
 and Publications IAEA

American College of Radiology

MEMBER IN PHYSICS



*Be it known by these presents that the Board of Chancellors
of this College, by the authority vested in it, has elected*

Mahmoud M. Hammoudah, Ph.D.

to membership in the

American College of Radiology

Given this 15th day of January, 1987



Stanley J. Hammon
CHAIRMAN OF THE BOARD OF CHANCELLORS

John J. Curry
EXECUTIVE DIRECTOR

"OFFICIAL SEAL"
LAVERNE HULDEN
Notary Public, State of Illinois
My Commission Expires 5-2-98

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
and the American Society of Therapeutic Radiologists
Hercely certifies that

MR. M. HAMMONDAH, JR.

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 sixth day of June, 1986

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



Quaker and Brady, and
New York

James H. L. Fadden Dykes II



Certification

Chang & Son

Expenses

Witness my hand and seal this 14th day of July, 1920.

The American Board of Medical Physics

Hereby certifies that

Mahmoud M. Hammoudah, Ph.D.

*Has satisfactorily met the professional standards
and clinical experience requirements
in medical physics to qualify for*

Certification in Medical Physics

with special competence in
Radiation Oncology Physics

January 16, 1991
DATE

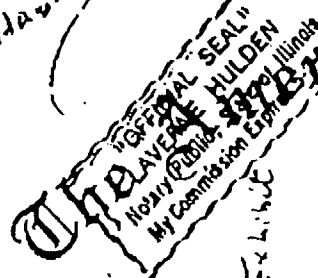
Edward S. Stein, Ph.D.
CHAIRPERSON

Edward L. Schubert, D.S.
SECRETARY

Subscribed and sworn to before me
this 28 day of August 1991

Notary Public

Commission Expires 5/2/98

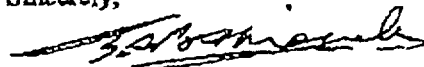


To Whom It May Concern

This letter is in support of M. Hammoudah, Ph.D.

Dr. Hammoudah was employed as an independent contractor medical physicist by Midwest Medical Physics, Inc. from March 2003 to October 2003 to provide the services of medical physicist to our client hospital. During his stay with us, Dr. Hammoudah had an opportunity to observe and to train in six of HDR treatments, with Nucletron V2 unit, under an authorized medical physicist, Bashir Pothawala, M.S. DABR. The level of training included topics such as applicators, catheters, console mechanism, treatment planning, emergency procedures, unit calibration and patient QA. Dr. Hammoudah is a board certified medical physicist with impressive resume and work experience.

Sincerely,



Bashir Pothawala, M.S. DABR
Midwest Medical Physics, Inc
1080 S. Lewis Ave
Lombard, IL 60148

This is to acknowledge the receipt of your letter/application dated

2/7/2005, and to inform you that the initial processing which includes an administrative review has been performed.

☒ Amend 37-01893-01 There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 1364412.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

Signed _____
Date _____