

## MATERIALS LICENSE

Amendment No. 03

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, 35, 36, 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.

## OFFICIAL RECORD COPY

## Licensee

1. Williamsport Regional Radiation  
Oncology Center
2. 802 Campbell Street  
Williamsport, Pennsylvania 17701

In accordance with the letter dated  
August 26, 1996,  
3. License Number 37-28742-01 is amended in  
its entirety to read as follows:

4. Expiration Date May 31, 2002

5. Docket or  
Reference No. 030-32709

6. Byproduct, Source, and/or  
Special Nuclear Material

7. Chemical and/or Physical  
Form

8. Maximum Amount that Licensee  
May Possess at Any One Time  
Under This License

A. Iridium-192

A. Sealed sources (Byk  
Mallinckrodt CIL BV)

A. 2 sources, 1 source not  
to exceed 444  
terabecquerels (TBq) (12  
curies(Ci)), and 1 source  
not to exceed 370 TBq (10  
Ci)

9. Authorized use

- A. One source for use in a Nucletron Corporation microSelectron-HDR for treatment of humans. The source activity may not exceed 370 TBq (10 Ci) at the time of installation. One source in its shipping container as necessary for replacement of the source in the high dose rate remote afterloader.

9610070309 960927  
PDR ADOCK 03032709  
C PDR

## CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 802 Campbell Street, Williamsport, Pennsylvania.
11. 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 UsersMaterial and Use

Eric A. Karp, M.D.

Iridium-192 in a remote afterloading device  
for the treatment of humans

Kenneth I. Glaser, M.D.

Iridium-192 in a remote afterloading device  
for the treatment of humans

B. The medical physicists for this license are Bun Chan, Jun Lin and Chih-Ming Lo.

C. The Radiation Safety Officer for this license is Eric A. Karp, M.D.

ML 10

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

37-28742-01

Docket or Reference Number

030-32709

Amendment No. 03

(Continued)

**CONDITIONS**

12. A high dose rate afterloading brachytherapy unit shall be used in accordance with the following conditions:
  - A. The unit may only be used in a permanently shielded treatment room.
  - B. During all patient treatments, both the authorized user and either the medical physicist or radiation safety officer must be physically present. Physical presence, for this purpose, is defined as within audible range of normal human speech.
  - C. The licensee shall have and post in the vicinity of the treatment console, written emergency procedures describing the actions to be taken, including surgical intervention, should the source not return to the shielded container at the conclusion of treatment. The licensee shall not begin any treatment procedure for which a decoupled or jammed source cannot be removed expeditiously from the patient and placed in a shielded condition.
  - D. The licensee shall ensure that personnel are trained in both the routine use of the unit and emergency procedures necessary to return the source to a safe position.
  - E. The licensee shall immediately, after implanting the source, visually check the permanently installed room radiation monitor to verify that it indicates an exposed radiation source.
  - F. The licensee shall visually monitor the patient during treatment through a continuous observation system.
  - G. The licensee shall permit no visitors in the treatment room.
13.
  - A. Access to the treatment room housing each high dose rate remote afterloading brachytherapy unit shall be controlled by a door at each entrance.
  - B. Each entrance to the treatment room shall be equipped with an electrical interlock system that will cause the source to return to the shielded position immediately upon opening of the entrance door. The interlock system shall be connected in such a manner that the source cannot be placed in the irradiation position until the entrance door is closed and the source "on-off" control is reset at the control panel.
  - C. Electrical interlocks on each entrance door to the treatment room shall be tested for proper operation at least once each day of use.
  - D. In the event of malfunction of the door interlock, the unit shall be locked in the "off" position and not used, except as may be necessary for repair or replacement of the interlock system, until the interlock system is shown to be functioning properly.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

37-28742-01

Docket or Reference Number

030-32709

Amendment No. 03

(Continued)

**CONDITIONS**

14. The following shall be performed only by persons specifically authorized by the Commission or an Agreement State to perform such service:
  - A. Installation, and replacement of the sealed sources contained in each high dose rate remote afterloading brachytherapy unit.
  - B. Maintenance or repair operations on any high dose rate remote afterloading brachytherapy unit and associated equipment involving work on the source safe, the source driving unit, or other mechanism that could expose the source, reduce the shielding around the source, or compromise the safety of the unit and result in increased radiation levels.
15. Prior to initiation of a treatment program, and subsequent to each source exchange for each high dose rate remote afterloading brachytherapy unit, a radiation survey shall be made of:
  - A. The source housing, with the source in the shielded position. The maximum radiation levels at 10 centimeters from the surface of the main source safe shall not exceed 1 millirem per hour.
  - B. All areas adjacent to the treatment room with the source in the exposed position. The survey shall clearly establish:
    - (1) That radiation doses to occupationally exposed individuals do not exceed the limits specified in 10 CFR 20.1201(a), 20.1207 and 20.1208.
    - (2) That radiation doses to individual members of the public do not exceed the limits specified in 10 CFR 20.1301(a).
16. In lieu of 10 CFR 35.404(a), immediately after retracting the source from the patient into its shielded position in the remote afterloading device, radiation survey shall be made of the patient and the remote afterloading device with a portable radiation detection survey instrument to confirm that the source has been removed from the patient. Records of the survey shall be maintained in lieu of the record required in 10 CFR 35.404(b).
17. In lieu of the source inventory described in 10 CFR 35.406, the licensee shall:
  - A. Promptly determine that all sources have returned to the safe, shielded position at the conclusion of each high dose rate remote brachytherapy procedure.
  - B. Promptly make a survey of the area of use to confirm that no sources have been misplaced.
  - C. Make a record of the survey including survey instrument used, dose rate, time, date and name of the individual making the survey.
  - D. Retain the record of the survey in lieu of the record required in 10 CFR 35.406(d).

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License Number

37-28742-01

Docket or Reference Number

030-32709

Amendment No. 03

(Continued)

## CONDITIONS

18. 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, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. 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 February 28, 1992
  - B. Letter dated May 15, 1992
  - C. Letter dated May 22, 1992
  - D. Facsimile received September 5, 1996



Date

SEP 27 1996

For the U.S. Nuclear Regulatory Commission

Original Signed By:  
Neelam Bhalla

By

Nuclear Materials Safety Branch  
Region I  
King of Prussia, Pennsylvania 19406

SEP 27 1996

Craig M. Allen  
Regional Administrator  
Williamsport Regional Radiation  
Oncology Center  
802 Campbell street  
Williamsport, PA 17701

Dear Mr. Allen:

This refers to your license amendment request. Enclosed with this letter is the amended license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

**Original Signed By:**

Neelam Bhalla  
Division of Nuclear Materials Safety

License No. 37-28742-01  
Docket No. 030-32709  
Control No. 122907

Enclosure:  
Amendment No. 03

DOCUMENT NAME: R:\WPS\MLTR\3728742.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

|        |                   |     |         |     |     |     |     |
|--------|-------------------|-----|---------|-----|-----|-----|-----|
| OFFICE | DNMS/RI           | N   | DNMS/RI |     |     |     |     |
| NAME   | NBhalla <i>NB</i> |     |         |     |     |     |     |
| DATE   | 09/27/96          | 09/ | /96     | 09/ | /96 | 09/ | /96 |

OFFICIAL RECORD COPY **ML 10**



# WILLIAMSPORT REGIONAL RADIATION ONCOLOGY CENTER

August 26, 1996

Ms. Neelan Bhalla  
U. S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406

RE: License Amendment  
License No. 37-28742-01  
Reference No. 122907

Dear Ms. Bhalla:

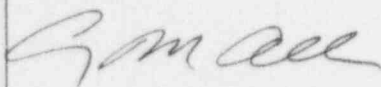
With regard to our License Amendment which is pending, please be advised as follows:

1. Williamsport Regional Radiation Oncology Center would like to submit Mr. Chih-Ming Lo's training and experience documentation. See attached qualifications of Chih-Ming Lo
2. We would like to withdraw Mr. Chin-An Chen's name for consideration as qualified HDR physicist. In addition, we would like to have Bun Chan and Jun Lin remain on the license as qualified HDR physicists.
3. We further request to have the maximum activity of the Iridium-192 source increased to 12 curies per source with a total activity of two (2) sources of 24 curies to accommodate a contract modification with our supplier.

If, in your judgment and experience, the joining of issues relative to personnel approval and approval for increased source activity will delay processing, you have our authorization to bifurcate the issues and consider only the request for increased source activity for this amendment. To assist you in your review, please be advised that the \$430.00 fee was paid by our Check No. 158284 which cleared on 05/15/96.

Thank you for your prompt attention. Our physicist, Bun Chan, will contact you in the near future regarding our request and the documentation submitted herewith.

Sincerely,



Craig M. Allen  
Regional Administrator  
Health Images, Inc.

OFFICIAL RECORD COPY

ML 10

122907

AUG 27 1996

## Qualifications of Chih-Ming Lo

Degree received (June 1994) from Rush University, Chicago, Illinois.

See Appendix 1a & 1b, diploma and transcript.

1) January 1987 - June 1990 (3.5 years)

Work full time under the supervision of a B.S. degree physicist with 7 years experience and Enach Y.L. Lai, M.D. of Mackay Memorial Hospital, Taipei, Taiwan.

See enclosed documentation from Enach Y.L. Lai, M.D. (Appendix 2)

2) July 1990 - June 1992 (two years)

Worked full time under the supervision of Ben-Maw Mark Kao, Ph.D. at Sun Yat-Sen Hospital Cancer Center, Taipei, Taiwan.

See enclosed documentation from Ben-Maw Mark Kao. (Appendix 3a & 3b)

3) October 1992 - March 1994 (6 months)

Worked half time (20 hours /week) under the supervision of James Chu, Ph.D., at Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois.

4) January 1995 - December 1995 (1 year)

Worked full time under the supervision of Chuck Aoki, M.S. at Huntington Memorial Hospital, Pasadena, California.

See enclosed documentation from Chuck Aoki. (Appendix 4)

5) January 1996 - Present (8 months)

Work full time under the supervision of Bun Chan, M.S. who is responsible for two accelerators and on three HDR licenses in the state of New Jersey and the Commonwealth of Pennsylvania.

See enclosed curriculum vitae (Appendix 5)

The documents show Chih-Ming Lo, up till August 1996, has 1 year and eleven months of clinical experience in the United States under supervision of three Board Certified Physicists; James Chu, Chuck Aoki and Bun Chan. In addition, 2 years of clinical experience with Ben-Maw Mark Kao, Board Certified Physicist, at Taipei, Taiwan.

# Rush University

## College of Health Sciences

On the recommendation of the Faculty and by virtue of the  
authority vested in the Trustees, the degree of

Master of Science

has been conferred on

Chih-Ming Lo

who has honorably fulfilled all the requirements prescribed  
for that degree. In witness thereof this Diploma is given in the city of  
Chicago this Eleventh day of June, Nineteen Hundred Ninety-four



John E. Ingers  
Dean

Leon Amick  
President

Marshall Field  
Chairman of the Board

APP. 1a



Official Transcript  
Rush University  
Chicago, IL 60612-3864

APP. 16

Name: Mr. Chih-Ming Lo  
1424 W. Harrison, #1A  
Chicago, IL 60607

Rush I.D.#: 73614  
Soc. Sec.#: 320-88-9470

Birthdate: 07/14/62  
Sex: M

Rush Degree(s): 06/11/1994 Master of Science

Major: Medical Physics

Specialty:

Concentration:

Previous degrees:

B.S. Fu-Jen Catholic University 6/84

----- Fall 1992 -----

| MPH     | Course                           | hrs  | pts | gpa |
|---------|----------------------------------|------|-----|-----|
| MPH 461 | Physics of Diagnostic Radiology  | 3.00 | A   |     |
| MPH 482 | Therapeutic Radiological Physics | 3.00 | A   |     |
| MPH 491 | Intro & Appl Computers Med Phys  | 3.00 | P   |     |
| MPH 501 | Radiation Physics                | 4.00 | B   |     |
| MPH 565 | Transfer Function Analysis       | 2.00 | B   |     |
| MPH 590 | Medical Physics Research Seminar | 1.00 | P   |     |

|     | attempt | earn  | pass | gpa   | hrs   | pts  | gpa |
|-----|---------|-------|------|-------|-------|------|-----|
| ses | 12.00   | 16.00 | 4.00 | 12.00 | 42.00 | 3.50 |     |
| cum | 12.00   | 16.00 | 4.00 | 12.00 | 42.00 | 3.50 |     |

----- Fall 1993 -----

| MPH     | Course                           | hrs  | pts | gpa |
|---------|----------------------------------|------|-----|-----|
| MPH 506 | Clinical Physics Practicum       | 3.00 | P   |     |
| MPH 590 | Medical Physics Research Seminar | 1.00 | P   |     |
| MPH 597 | Intro to Research                | 8.00 | P   |     |
| PHY 555 | Physio Of Cellular Homeostasis I | 3.00 | P   |     |

|     | attempt | earn  | pass  | gpa   | hrs    | pts  | gpa  |
|-----|---------|-------|-------|-------|--------|------|------|
| ses | 0.00    | 15.00 | 15.00 | 0.00  | 0.00   | 0.00 | 0.00 |
| cum | 37.00   | 65.00 | 28.00 | 37.00 | 133.00 | 3.59 |      |

Passed the Qualifying Examination for the Master of Science degree in Medical Physics on 10/4/93

----- Winter 1993 -----

| MPH     | Course                           | hrs  | pts | gpa |
|---------|----------------------------------|------|-----|-----|
| MPH 457 | Rad Safety of Radioactive Mtrls  | 2.00 | A   |     |
| MPH 484 | Brachytherapy Physics            | 2.00 | B   |     |
| MPH 502 | Radiological Physics I           | 4.00 | B   |     |
| MPH 506 | Clinical Physics Practicum       | 4.00 | P   |     |
| MPH 582 | Method Electron Dose Calculation | 2.00 | A   |     |
| MPH 590 | Medical Physics Research Seminar | 1.00 | P   |     |

|     | attempt | earn  | pass | gpa   | hrs   | pts  | gpa |
|-----|---------|-------|------|-------|-------|------|-----|
| ses | 10.00   | 15.00 | 5.00 | 10.00 | 34.00 | 3.40 |     |
| cum | 22.00   | 31.00 | 9.00 | 22.00 | 76.00 | 3.45 |     |

----- Winter 1994 -----

| MPH     | Course                           | hrs  | pts | gpa |
|---------|----------------------------------|------|-----|-----|
| MPH 504 | Topics in Medical Physics        | 3.00 | P   |     |
|         | Image Process                    |      |     |     |
| MPH 506 | Clinical Physics Practicum       | 3.00 | P   |     |
| MPH 590 | Medical Physics Research Seminar | 1.00 | P   |     |
| MPH 598 | Thesis Research                  | 8.00 | P   |     |

|     | attempt | earn  | pass  | gpa   | hrs    | pts  | gpa  |
|-----|---------|-------|-------|-------|--------|------|------|
| ses | 0.00    | 15.00 | 15.00 | 0.00  | 0.00   | 0.00 | 0.00 |
| cum | 37.00   | 80.00 | 43.00 | 37.00 | 133.00 | 3.59 |      |

----- Spring 1993 -----

| MPH     | Course                           | hrs  | pts | gpa |
|---------|----------------------------------|------|-----|-----|
| MPH 458 | Radiation Safety Laboratory      | 2.00 | A   |     |
| MPH 471 | Physics Nuclear Medicine I       | 3.00 | A   |     |
| MPH 503 | Radiological Physics II          | 4.00 | A   |     |
| MPH 505 | Radiological Physics Laboratory  | 2.00 | P   |     |
| MPH 531 | Radiation Biology                | 3.00 | B   |     |
| MPH 590 | Medical Physics Research Seminar | 1.00 | P   |     |

|     | attempt | earn  | pass  | gpa   | hrs    | pts  | gpa |
|-----|---------|-------|-------|-------|--------|------|-----|
| ses | 12.00   | 15.00 | 3.00  | 12.00 | 45.00  | 3.75 |     |
| cum | 34.00   | 46.00 | 12.00 | 34.00 | 121.00 | 3.55 |     |

----- Summer 1993 -----

| ANA     | Course                           | hrs  | pts | gpa |
|---------|----------------------------------|------|-----|-----|
| ANA 592 | Concepts in Morphology           | 3.00 | A   |     |
|         | Anatomy for Medical Physics      |      |     |     |
| MPH 590 | Medical Physics Research Seminar | 1.00 | P   |     |

|     | attempt | earn  | pass  | gpa   | hrs    | pts  | gpa |
|-----|---------|-------|-------|-------|--------|------|-----|
| ses | 3.00    | 4.00  | 1.00  | 3.00  | 12.00  | 4.00 |     |
| cum | 37.00   | 50.00 | 13.00 | 37.00 | 133.00 | 3.59 |     |

----- Spring 1994 -----

MPH 999 Enrollment Status: Med. Physics 0.00 XX

|     | attempt | earn  | pass  | gpa   | hrs    | pts  | gpa  |
|-----|---------|-------|-------|-------|--------|------|------|
| ses | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00 | 0.00 |
| cum | 37.00   | 80.00 | 43.00 | 37.00 | 133.00 | 3.59 |      |

Office of the Registrar

04/09

ISSUED TO STUDENT  
RUSH UNIVERSITY  
OFFICE OF THE REGISTRAR

Official transcripts are printed on green paper. The Family Educational Rights and Privacy Act of 1974 prohibits the release of this information without the student's written consent.

馬 偕 紀 念 醫 院

MACKAY MEMORIAL HOSPITAL

No. 92, NORTH CHUNG SAN ROAD, Sec. 2  
TAIPEI 104, TAIWAN

Cable Address  
MACKAY TAIPEI

TEL: 5433535

November 2, 1995

## CERTIFICATION

This is to certify that Mr. Chih-Ming Lo was employed as a Medical Physicist in the Department of Radiation Oncology at the Mackay Memorial Hospital from January, 1987 to June, 1990. During this period, he had been trained to operate and calibrate the Buckler HDR (High-Dose-Rate) Brachytherapy machine.

*Enoch Y. L. Lai*

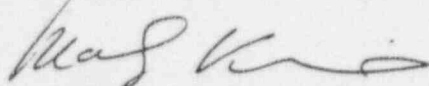


Enach Y. L. Lai, M.D.  
Director, Dept of Radiation Oncology  
Mackay Memorial Hospital

**JFK Medical Center  
Department of Radiation Oncology  
65 James Street  
Edison, NJ 08818  
(908) 321-7167**

**To Whom It May Concern :**

**Mr. Chih-Ming Lo performed duties in medical physics full time from July 1990 to June 1992 under my direct supervision. During that period, he performed duties in Varian Clinac 1800 acceptance test, Monitor Unit calculation, machine routine QA checks, treatment planning with AECL Theraplan system, chart check, radiation therapy accessory making (block, cast, bolus) and radiation protection. The duties were performed in SUN YAT-SEN Hospital (Cancer Center) in Taipei, Taiwan.**

  
**Mark Kao, Ph.D. ABR  
Certified Medical Physicist  
5/13/96**

# 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  
Hereby certifies that

**Ben-Maw Mark Kao, M.D.**

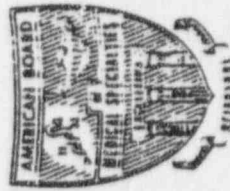
Has pursued an accepted course of graduate study  
and clinical work, has met certain standards and qualifications and  
has passed the examinations conducted under the authority of

The American Board of Radiology

On this sixth day of June, 1985

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

**Therapeutic Radiological Physics**



APP. 36


Arthur W. Brady, M.D. Frank L. Finkbeiner, M.D.

LOS ANGELES MEDICAL PHYSICS, INC.  
Certified by the American Board of Radiology

526 Michillinda Way  
Sierra Madre, CA 91024  
818-3975151

To Whom It Concern:

Mr. Chih-Ming Lo performed duties in medical physics full time from Jan. 1995 to Dec. 1995 under my direct supervision. In part, he performed duties in medical physics as outlined in the attached regulatory literature: paragraphs 35.59, 35.632, 35.634, 35.641. The duties were performed in community hospitals and medical clinics in Los Angeles, California.

C. Aoki, M.Sc. DABR   
Certified Medical Physicist

3/25/96



# 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

Hereby certifies that

**Chuck Toshio Anki, M.S.**

Has pursued an accepted course of private 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 sixteenth day of June, 1979

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

**Therapeutic Radiological Physics**

*E. Richard King*

*C. Allen Good*



**Curriculum Vitae**  
**Lo, Chih-Ming (Mark)**  
 2101 W. Vine St., #302  
 Alhambra, CA 91801-1863  
 TEL: (818)458-4583

**Objective:** Junior Medical Physicist

**Education:** M.S., 1994      Rush University      -Medical Physics  
                   B.S., 1984      Fu-Jen University      -Physics

**Master's Thesis:**

Title : Integration of Computed Tomography and orthogonal  
 Radiographs in the Brachytherapy Treatment Planning  
 Advisor: Virudachalam, R.G. Ph.D.

**Study History:**

- a. "Calculation of Monitor Units for Asymmetric Jaws on a 2100C Linear" presented in AAPM meeting, 1993.
- b. "Junction Matching Between Supraclavicular and Tangential Fields of Radiotherapy" poster presented in AAPM meeting, 1991.
- c. "CT Image Integration in Brachytherapy Treatment Planning" poster presented in AAMP meeting, 1994.

**Employment:**

- a. **Clinic Assistant**  
 Department of Radiation Oncology      Jan. 1995 ~ Dec. 1995  
 Huntington Memorial Hospital  
 Pasadena, California
- b. **Clinic Assistant**  
 Department of Medical Physics      Oct. 1992 ~ Mar. 1994  
 Rush-Presbyterian-St. Luke's Medical Center  
 Chicago, Illinois
- c. **Medical Physicist**  
 Department of Medical Physics      Jul. 1990 ~ Jun. 1992  
 Sun Yat-Sen Hospital (Cancer Center)  
 Taipei, Taiwan
- d. **Medical Physicist**  
 Department of Radiation Oncology      Jan. 1987 ~ Jun. 1990  
 Mackay Memorial Hospital  
 Taipei, Taiwan

**Special Training:**

Varian Clinac 1800 Linear Accelerator Maintenance Training

**Experience:**

- a. Treatment Planning System: Memorial system, MultiData, Theraplan, CMS.
- b. Machine Quality Assurance: Annual, Monthly, Weekly Check.
- c. Chart Check.
- d. Block-Cutting and Immobilization System Making.  
(Block, Cast or Mask, Mold or Alpha-Cradle)
- e. Radiation Safety.
- f. Diagnostic X-ray Machine Annual Check.

**Reference:**

- a. Mark Kao, Ph.D. Senior Physicist  
JFK Medical Center  
Department of Radiation Oncology  
65 James St.  
Edison, NJ 08818  
TEL:(908)321-7167, FAX:(908)906-4911
- b. James C.H. Chu, Ph.D. Professor and Chairman  
Rush University  
Department of Medical Physics  
600 S. Paulina St.  
Chicago, IL 60612  
TEL:(312)942-5751, FAX:(312)942-2339
- c. Chuck T. Aoki, M.Sc. Physicist  
Los Angeles Medical Physics Inc.  
100 W. California Blvd.  
Pasadena, CA 91105  
TEL:(818)397-5149, FAX:(818)397-3374



# WILLIAMSPORT REGIONAL RADIATION ONCOLOGY CENTER

L6

March 8, 1996

A FACILITY  
OF HEALTH  
IMAGES, INC.

Ms. Neelam Bhalla  
Health Physicist  
Nuclear Materials Safety Branch I  
U.S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

**RE: License Amendment: No. 37-28742-01, Reference No. 122-907**

Dear Ms. Bhalla:

Williamsport Regional Radiation Oncology Center would like to confirm your telephone discussion with Mr. Bun Chan regarding our amendment request. You are in receipt of a certificate from the American Board of Radiology for Mr. Chin-An Chen, also known as James Chen and diploma from Rush University for Mr. Chih-Ming Lo, also known as Mark Lo. We are in the process of further documenting Mr. Chih-Ming Lo's training from Taiwan as well as from the United States.

We would, therefore, like to postpone your review of our amendment request until we can forward the necessary documentation to you. Until then, we would like to keep Mr. Jun Lin as a qualified physicist on our radioactive material license.

Thank you for your consideration in this matter.

Sincerely,

Craig M. Allen, Manager and  
Northern Operations Director  
Health Images, Inc.

CMA:der

cc: Mr. Bun Chan

**OFFICIAL RECORD COPY ML 10**

**MAR 14 1996**

|  |  |  |  |
|--|--|--|--|
| <b>TELEPHONE CONVERSATION RECORD</b>   |  | <b>Date:</b> 2-29-1996                                   | <b>Time:</b>                             |
| <b>Mail Control No.:</b> 122907  |  | <b>License No.:</b><br>37-28742.01                       | <b>Docket No.:</b><br>030-32709          |
| <b>Person Called:</b> Bun Chan   |  | <b>Organization:</b><br>Williamsport rad.<br>Onc. Center | <b>Telephone Number:</b><br>710-587-5084 |
| <b>Person Calling:</b> Neelam Bhalla   |  | ext 6029   |  |
| <b>Subject:</b> Confirming the names of the individuals to be physicists on the license  |  |  |  |
| <b>Summary:</b> Confirm that James Chan is indeed Chin-An Chan. Also submit more documentation for Chin An Lo's training and experience. |  |  |  |
| <b>Action Required/Taken:</b>  |  |  |  |
| <b>Signature:</b> <i>neelam Bhalla</i>   |  | <b>Date:</b> 9-27-1996                                   |  |





Health Images, Inc.

37-28742-01  
030-32709

8601 Dunwoody Place, Building 200  
Atlanta, Georgia 30350  
404-587-5084

February 16, 1996

Mr. James P. Dwyer  
Senior Health Physicist  
U.S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406

RE: Amendment to License No. 030-32709

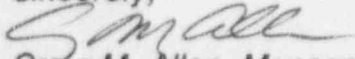
Dear Mr. Dwyer:

Williamsport Regional Radiation Oncology Center would like to amend its radioactive material license to 1) remove Jun Lin from the license, and 2) designate two additional medical physicists: Mr. James Chen and Mr. Chih-Ming Lo.

Mr. James Chen received his Masters Degree in Medical Physics in 1990 at University of Wisconsin and was certified by the American Board of Radiology in 1995. Mr. Chih-Ming Lo received his Masters of Science Degree in 1994 at Rush University and was trained to operate and calibrate HDR units from 1987 to 1990 at Mackay Memorial Hospital, Taiwan. Since December, 1995, Mr. Lo is trained to operate the Nucletron HDR unit at Valley Hospital, Ridgewood, New Jersey (NRC License No. 29-03845-01 under the supervision of Bun Chan, M.S. and Ki-Chuen Chak, Ph.D.

Enclosed please find copies of Mr. James Chen's ABR Board Certification, Mr. Chih-Ming Lo's Master of Science diploma and Certification from Mackay Memorial Hospital. Please advise if there is any additional information you will need for your review.

Sincerely,

  
Craig M. Allen, Manager and  
Northern Operations Director  
Health Images, Inc.

CMA:der

Enclosures

122907

OFFICIAL RECORD COPY ML 10

FEB 20 1996

**JAMES C. CHEN**

134 Cranmoor Drive  
Toms River, NJ 08753  
(908) 914-9314

**CLINICAL  
EXPERIENCE**

**Medical Physics International Associates, Inc., Normandy Beach, NJ**  
Position: Medical Physicist 2/93-present

**Clara Maass Medical Center, Belleville, New Jersey**  
Department of Radiation Oncology 4/94-3/95  
Position: Medical Physicist

**Community Medical Center, Toms River, New Jersey**  
Department of Radiation Oncology 6/90-6/94  
Position: Medical Physicist

**University of Wisconsin-Madison Hospital and Clinics, Madison, WI**  
Radiotherapy Department 9/88-5/90  
Position: Medical Physicist

**Veterans Administration of Army Hospital, Taipei, Taiwan**  
Department of Radiology 9/87-5/88  
Position: Physicist

**Experience with:**

- \* Varian Clinac 2100C, Clinac 1800, Clinac 4 linear Accelerator
- \* Siemens KD Linear Accelerator
- \* AECL Theraplan Computer Treatment Planning Systems
- \* Theratron Simulator
- \* Micro Selettron High Dose Rate Remote Afterloading Machine
- \* GE Target 2 3-D Treatment Planning System
- \* Pd-103 and I-125 Permanent Implant
- \* Wellhofer Water Phantom System
- \* Phillips SL-750
- \* PC-Rainbow Dosimetry System
- \* Render 3-D Treatment Planning System

**PROFESSIONAL  
LICENSE**

American Board of Radiology 1995

Operation Radiation & Radiopaque of Medium Level License,  
Taiwan Association of Physicists in Radiology of Nuclear Committee  
Institute.

**EDUCATION**

**University of Wisconsin - Madison, Madison, Wisconsin**  
Department of Medical Physics in Medical School  
Master of Medical Physics, May 1990

**National Tsing-Hua University**  
School of Nuclear Sciences  
Master of Nuclear Science, June 1985

# 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

Thereby certifies that

**Chin-An Chen, M.D.**

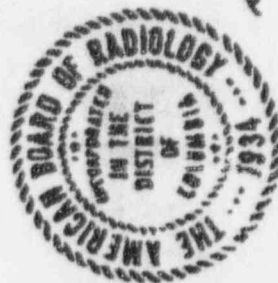
Has passed an accepted course of graduate study  
 and clinical work, has met certain standards and qualifications and  
 has passed the examinations conducted under the authority of

The American Board of Radiology

On this seventh day of June, 1995

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

**Therapeutic Radiological Physics**



Chung-Ho Hsiao, M.D.     William J. Hall, M.D.     Paul C.     M.D.  
 President     Secretary & Treasurer     President

AL 21 83 120 \* 32 210 \* 270 60 \* 11.0

馬 偕 紀 念 醫 院

MACKAY MEMORIAL HOSPITAL


No 92, NORTH CHUNG SAN ROAD, Sec 2  
TAIPEI 104, TAIWANCable Address:  
MACKAY TAIPEI

TEL: 5433535

November 2, 1995

## CERTIFICATION

This is to certify that Mr. Chih-Ming Lo was employed as a Medical Physicist in the Department of Radiation Oncology at the Mackay Memorial Hospital from January, 1987 to June, 1990. During this period, he had been trained to operate and calibrate the Buckler HDR (High-Dose-Rate) Brachytherapy machine.

Enoch Y. L. Lai 

Enach Y. L. Lai, M.D.  
Director, Dept of Radiation Oncology  
Mackay Memorial Hospital

# Northwestern University

## College of Health Sciences

On the recommendation of the Faculty and by virtue of the authority vested in the Trustees, the degree of

Master of Science

has been conferred on

**Chih-Ming Lo**

who has honorably fulfilled all the requirements prescribed for that degree. In witness thereof this Diploma is given in the city of

Chicago this Eleventh day of June, Nineteen Hundred Ninety-four

*John G. Fisher*

*Scott H. Smith*

*Marshall Field*  
Chancellor of the University



**FedEx** USA Airbill

8486653195

FedEx Retrieval Copy

81 100 10958399 5331N

From **2/16/96** 1797-4352-3

Sender's Name **Craig M. Allen, mgr.** Phone **717-321-0501**

Company **WILLIAMSPORT REG RAD ONCOLOGY**

Address **802 CAMPBELL ST**

City **WILLIAMSPORT** State **PA** Zip **17701**

Recipient's Name **James P. Dwyer** Phone **610 337-5309**

Company **U.S. Nuclear Regulatory Comm. - Region I**

Address **475 Allendale Road**

City **King of Prussia** State **PA** Zip **19406**

For HOLD at FedEx Location check here

☐ Hold Warehouse ☐ Hold Suburban

For Saturday Delivery check here

☐ Saturday Delivery ☐ Saturday Delivery

8486653195



1 ☒ **Service** ☐ Priority Overnight ☐ FedEx Overnight ☐ FedEx 2Day ☐ FedEx International ☐ FedEx Home Delivery ☐ FedEx Freight ☐ FedEx 2Day Freight

2 ☐ **NEW FedEx First Overnight** ☐ FedEx First Overnight

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5 ☒ **Payment** ☐ Collect ☐ Prepaid ☐ Third Party ☐ Credit Card ☐ Cash ☐ Other

6 ☐ **Insurance** ☐ Insured ☐ Uninsured

7 ☐ **Signature** ☐ Signature ☐ No Signature

8 ☐ **Release Signature** ☐ Release Signature ☐ No Release Signature

232

Rev Date 8/95 • PART #107381 ©FEE 1195 0200

## MATERIALS LICENSE

Amendment No. 01

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, 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<br>1. Williamsport Regional Radiation Oncology Center<br>2. 802 Campbell Street<br>Williamsport, Pennsylvania 17701   |  | In accordance with the letter dated October 8, 1993,<br>3. License number 37-28742-01 is amended in its entirety to read as follows: |  |
|  |  | 4. Expiration date May 31, 1997  |  |
|  |  | 5. Docket or Reference No. 7030-32709  |  |
| 6. Byproduct, source, and/or special nuclear material<br>A. Iridium-192  |  | 7. Chemical and/or physical form<br>Sealed sources (Byk-Mallinckrodt CIL RV)   |  |
|  |  | 8. Maximum amount that licensee may possess at any one time under this license<br>A. 10 curies per source and 20 curies total        |  |
| 9. Authorized use<br>A. One source for use in a Microtron Compact Microelectron-HDR for treatment of humans. One source in its shipping container as necessary for replacement of the source in the high dose rate remote afterloader. |  |  |  |
| 10. Licensed material may be used only at the licensee's facilities located at 802 Campbell Street, Williamsport, Pennsylvania.  |  |  |  |
| 11. 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:  |  |  |  |
| <u>Authorized Users</u><br>Eric A. Karp, M.D.<br>Kenneth I. Glaser, M.D.   |  | <u>Material and Use</u><br>Iridium-192<br>Iridium-192  |  |
| B. The medical physicists for this license are Bun Chan and Jun Lin.   |  |  |  |
| C. The Radiation Safety Officer for this license is Eric A. Karp, M.D.   |  |  |  |

## LICENSE FEE REQUIREMENTS

LICENSE FEE AND DEBT COLLECTION BRANCH  
DIVISION OF ACCOUNTING AND FINANCE  
OFFICE OF THE CONTROLLER  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001WILLAMSPORT REGIONAL RADIATION ONCOLOGY  
ATTN: CRAIG M. ALLEN  
802 CAMPBELL STREET  
WILLAMSPORT, PA 17701

## TYPE OF ACTION

- ☐
- NEW LICENSE
- 
- ☐
- RENEWAL OF LICENSE
- 
- ☒
- AMENDMENT TO LICENSE

REQUESTED DATE

2-16-96

LICENSE NUMBER

37-28742-01

CONTROL NUMBER

122907

## I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of the enclosed Federal Register notice. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

| FEE CATEGORY | APPLICATION | RENEWAL | AMENDMENT |
|--------------|-------------|---------|-----------|
| 7C           | \$          | \$      | \$ 430.00 |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |

|                  |    |        |
|------------------|----|--------|
| FEE(s) DUE       | \$ | 430.00 |
| PAYMENT RECEIVED | \$ | 0.00   |
| AMOUNT DUE       | \$ | 430.00 |

☒ Your request was received without the prescribed application fee.☐ We received your Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_. Payment of the additional fee noted above is required.☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

## II. FEE NOT REQUIRED

☐ Enclosed is Check No. \_\_\_\_\_ which accompanied your request. The fee is not required because:☐ We received your Check No. \_\_\_\_\_ in payment of the fee.☐ The Licensing staff has informed us that your request is to be considered as a continuation of your request dated \_\_\_\_\_.

Control No. \_\_\_\_\_

☐ Your request was combined, prior to review, with your request, Control No. \_\_\_\_\_.

## III. CHECK RETURNED

☐ Enclosed is Check No. \_\_\_\_\_ which was returned to us by the bank for:

- ☐
- INSUFFICIENT FUNDS
- 
- ☐
- ACCOUNT CLOSED
- 
- ☐
- OTHER

MAIL THE REPLACEMENT CHECK TO THE ADDRESS LISTED AT THE TOP OF THIS FORM AND REFERENCE THE ABOVE CONTROL NUMBER.

## IV. LICENSE ISSUED WITHOUT THE REQUIRED FEE

☐ License No. \_\_\_\_\_ Amendment No. \_\_\_\_\_, issued on \_\_\_\_\_.

\_\_\_\_\_ was issued without the required fee being collected. The fee required is noted in Section I of this form.

☐ The scope of your licensed program was increased. Therefore, your request is subject to the application fee(s) noted in Section 1 of this form. Refer to Section 170.31 and Footnote 1(d)(2).☐ Because of the urgency of your request, the license was issued without remittance of the prescribed fee noted in Section 1 of this form.

SIGNATURE -- LICENSE FEE ANALYST

BRENDA BROWN

LFDCB

BBA

3/15/96

LFDCB

Distribution:

MAF Correspondence FY

LFDCB Chief

Invoice File w/encl

LFDCB Analyst

LFDCB R/F (2)

DAF R/F

DATE

3-15-96

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)  
INFORMATION FROM  
PROGRAM CODE: 02230  
STATUS CODE: 0  
FEE CATEGORY: 7C  
EXP. DATE: 19970531  
FEE COMMENTS:  
DECOM FIN ASSUR REQD: N

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: WILLIAMSPORT REGIONAL RADIATION ONC  
RECEIVED DATE: 960220  
DOCKET NO: 3032709  
CONTROL NO.: 122907  
LICENSE NO.: 37-28742-01  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED

AMOUNT:             
CHECK NO.:           

3. COMMENTS

SIGNED M. C. Perkins  
DATE 4/29/96

8. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 1)

1. FEE CATEGORY AND AMOUNT: 7C \$430

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:

AMENDMENT ✓  
RENEWAL             
LICENSE           

3. OTHER           

SIGNED L. Brown  
DATE 5/2/96

I (P)

|                  |                           |
|------------------|---------------------------|
| Log              | <u>MAR 3</u>              |
| Remitter         | <u>HEALTH IMAGES, INC</u> |
| Check No.        | <u>158284</u>             |
| Amount           | <u>\$430</u>              |
| Fee Category     | <u>7C</u>                 |
| Type of Fee      | <u>AMEND</u>              |
| Date Check Rec'd | <u>5/2/96</u>             |
| Date Completed   | <u>          </u>         |
| By               | <u>L. Brown</u>           |

07-01 MV h- 8VN 9661

07 for 5/2/96