

MATERIALS LICENSE

Amendment No. 17

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		In accordance with the letter dated April 24, 1997,	
1. Nuclear Imaging Systems, Inc.		3. License Number 37-28453-01 is amended in its entirety to read as follows:	
2. 65 Valley Stream Parkway, Suite 300 Malvern, Pennsylvania 19355		4. Expiration Date July 31, 2005	
		5. Docket or Reference No. 030-31395	
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. Any byproduct material identified in 10 CFR 35.100	A. Any radiopharmaceutical identified in 10 CFR 35.100	A. As needed	
B. Any byproduct material identified in 10 CFR 35.200	B. Any radiopharmaceutical identified in 10 CFR 35.200 except generators and gas	B. As needed	
9. Authorized use			
A. Any uptake, dilution and excretion procedure approved in 10 CFR 35.100.			
B. Any imaging and localization procedure approved in 10 CFR 35.200.			

CONDITIONS

10. A. Licensed material may be stored and possessed, incident to mobile activities, at the licensee's facilities located at 618 Delaware Avenue, Bethlehem, Pennsylvania; 406 Delaware Avenue, Bethlehem, Pennsylvania; 1259 Cedar Crest Boulevard, Suite 200, Allentown, Pennsylvania; 506 Thomson Park Drive, Cranberry Township, Pennsylvania; 4A Great Meadow Lane, East Hanover, New Jersey; 5709 South Laburnum Avenue, Richmond, Virginia; 222 Schanck Road, Suite 2C, Freehold, New Jersey; 10 W. Baltimore Pike, Lansdowne, Pennsylvania; 4503 Highway 1, Rehoboth, Delaware; 4808 Bergenline Avenue, Suite 602, Union City, New Jersey and 2241 Corsons Lane, Unit D, Plymouth Meeting, Pennsylvania;
- B. Licensed material listed in Item 6 may be used at clients' medical care facilities in the states of Pennsylvania, New Jersey, Delaware, Connecticut, Ohio and Virginia.
11. The Radiation Safety Officer for this license is Charles Gentile.

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PDR ADOCK 03031395
C PDR

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

37-28453-01

Docket or Reference number

030-31395

Amendment No. 17

12. 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>	<u>Material and Use</u>
Robert C. Farmer, M.D.	35.100; 35.200
Bindukumarc Kansupada, M.D.	35.100; 35.200
James L. Tatum, M.D.	35.100; 35.200
Madhukar Pandya, M.D.	35.200 for cardiovascular clinical procedures
Joel S. Raichlen, M.D.	35.200 for cardiovascular clinical procedures
Suketu Nanavati, M.D.	35.200 for cardiovascular clinical procedures
M. Khalid Malik, M.D.	35.200 for cardiovascular clinical procedures
S. Chivukula, M.D.	35.100; 35.200
Joseph M. Ullman, M.D.	35.200 for cardiovascular clinical procedures
Albert Saul, M.D.	35.200 for cardiovascular clinical procedures
Jeffrey Cooper, M.D.	35.100; 35.200
Bruce Line, M.D.	35.100; 35.200
Brian McCandless, M.D.	35.100; 35.200
Naresh Gupta, M.D.	35.100; 35.200
Karen S. Kutoloski, D.O.	35.200 for cardiovascular clinical procedures
Shaival J. Kapadia, M.D.	35.200 for cardiovascular clinical procedures

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), 40.36(b), and 70.25(d) for establishing financial assurance for decommissioning.
14. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

MATERIALS LICENSE
SUPPLEMENTARY SHEET

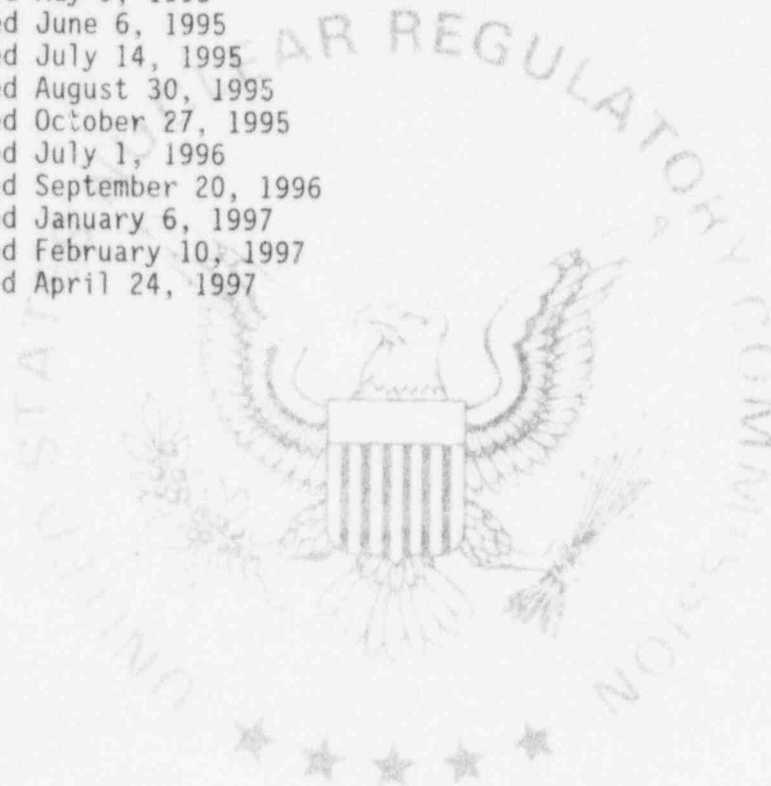
License number
37-28453-01

Docket or Reference number
030-31395

Amendment No. 17

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, 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 24, 1995
- B. Letter dated May 9, 1995
- C. Letter dated June 6, 1995
- D. Letter dated July 14, 1995
- E. Letter dated August 30, 1995
- F. Letter dated October 27, 1995
- G. Letter dated July 1, 1996
- H. Letter dated September 20, 1996
- I. Letter dated January 6, 1997
- J. Letter dated February 10, 1997
- K. Letter dated April 24, 1997



For the U.S. Nuclear Regulatory Commission

Original Signed By:
Michelle Beardsley

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

JUN 25 1997

Date _____

JUN 25 1997

Jeffrey Mandler
President/CEO
Nuclear Imaging Systems, Inc.
65 Valley Stream Parkway, Suite 300
Malvern, PA 19355

Dear Mr. Mandler:

This refers to your license amendment requests. Enclosed with this letter are the amended licenses.

Please review the enclosed documents carefully and be sure that you understand and fully implement all the conditions incorporated into the amended licenses. 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:
Michelle Beardsley

Michelle R. Beardsley
Division of Nuclear Materials Safety

License Nos. 37-28453-01/37-28453-02
Docket Nos. 030-31395/030-33417
Control Nos. 124546/124658

Enclosures:

1. Amendment No. 17
2. Amendment No. 09

DOCUMENT NAME: R:\WPS\MLTR\L3728453

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	Beardsley						
DATE	06/12/97	06/ /97	06/ /97	06/ /97	06/ /97		

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Nuclear Imaging Systems
030-31395

April 24, 1997

Michelle Beardsley
US NRC Region I
475 Allendale Rd.
King of Prussia, PA 19406-1415

Re : Amendment Request for Radioactive Materials License Number : 37-28453-01 / 02.

Dear Ms. Beardsley,

An amendment to the above referenced radioactive materials license is requested in order to:

1. Change the Bethlehem, PA location of use to the following address :

406 Delaware Ave.
Bethlehem, PA

Patient studies will be performed at this location. This facility may also be used as a base station for mobile cardiac nuclear medicine. A diagram of the facility is attached for your review.

2. Remove the Mansfield, Ohio location from the license. A copy of the close-out survey is attached for your review. The quality control sources have been transferred to the Pittsburgh (Cranberry Twp.) location under this same license.

3. Add the following authorized user to the license :

a) Habib Bolourchi, MD
Dr. Bolourchi's credentials are attached for your review.

4. Add the following locations of use to the license :

a) 4503 Highway 1
Rehoboth, DE 19971

Patient studies will be performed at this location. This facility may also be used as a base station for mobile cardiac nuclear medicine. A diagram of the facility is attached for your review. This location is in the office of Dr. Bolourchi, named above. As an authorized user, he will provide on site supervision for the use of radioactive material at this site.

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MAY - 6 1997

b) 4808 Bergenline Ave., Suite 602
Union City, NJ 07087

Patient studies will be performed at this location. This facility may also be used as a base station for mobile cardiac nuclear medicine. A diagram of the facility is attached for your review. This location was previously listed on this license and is now being reopened as the business needs in the area have changed.

All other aspects of the program will remain the same. I have enclosed \$880 for the license amendment fee. If you have any further questions please feel free to contact Jim Fongheiser of my staff at (610) 768-1555.

Sincerely,



Jeffrey Mandler, President / CEO

cc : Charles Gentile, RSO

Attachments :

Bethlehem Facility Diagram
Rehoboth Facility Diagram

Mansfield Close-out Survey
Union City Facility Diagram

Credentials for H. Bolourchi, M.D.
Amendment Fees

NAME
NUCLEAR IMAGING SYSTEMS

LOCATION
406 DELAWARE AVENUE

BETHLEHEM, PA

MODALITY
NUCLEAR

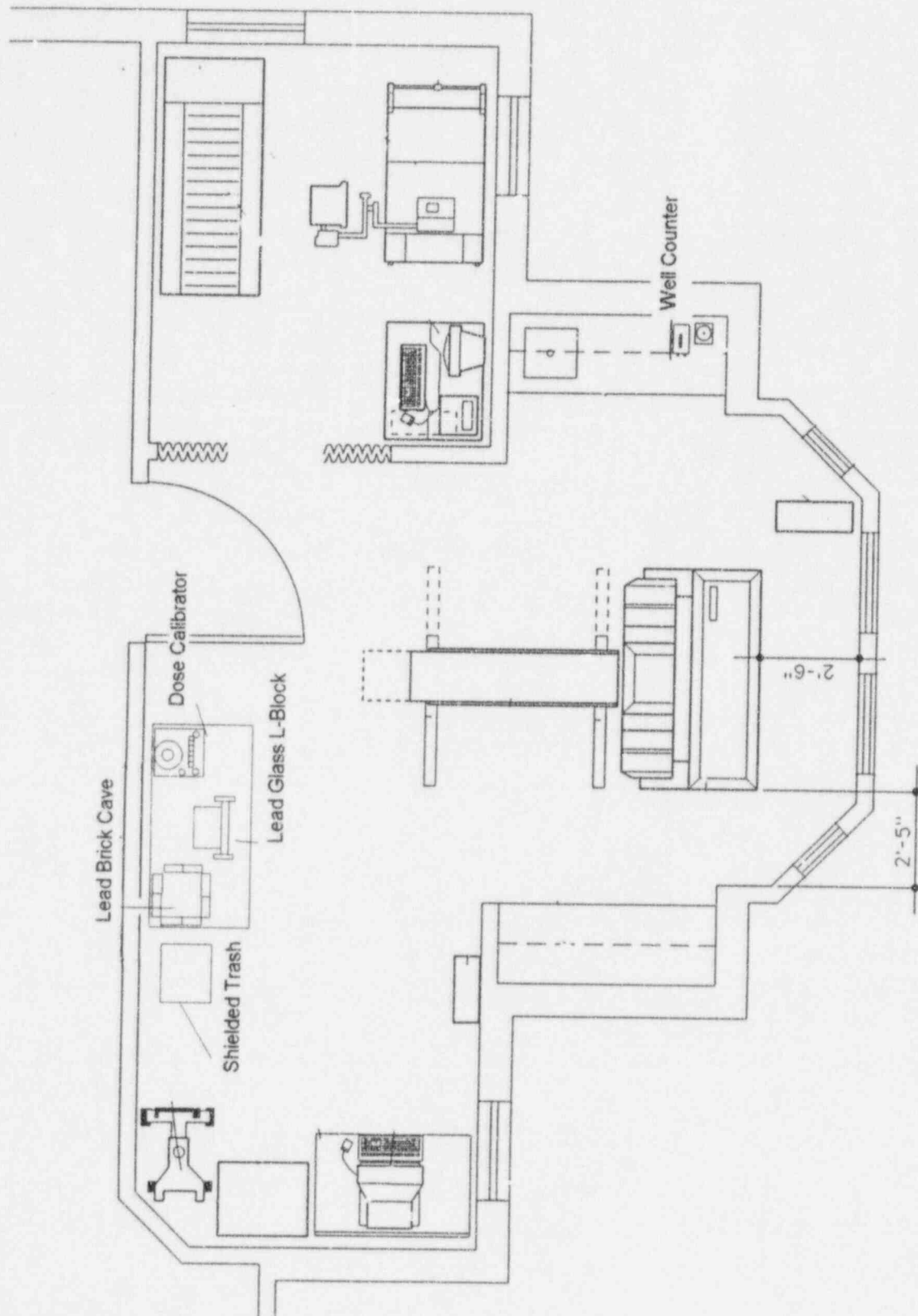
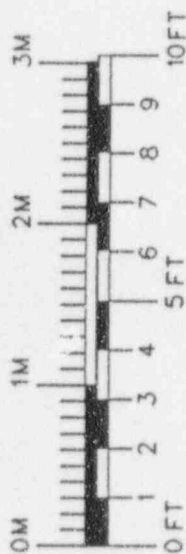
DRAWING #

03-97002-00

VOLUME #

1 OF 1

PAGE # 1



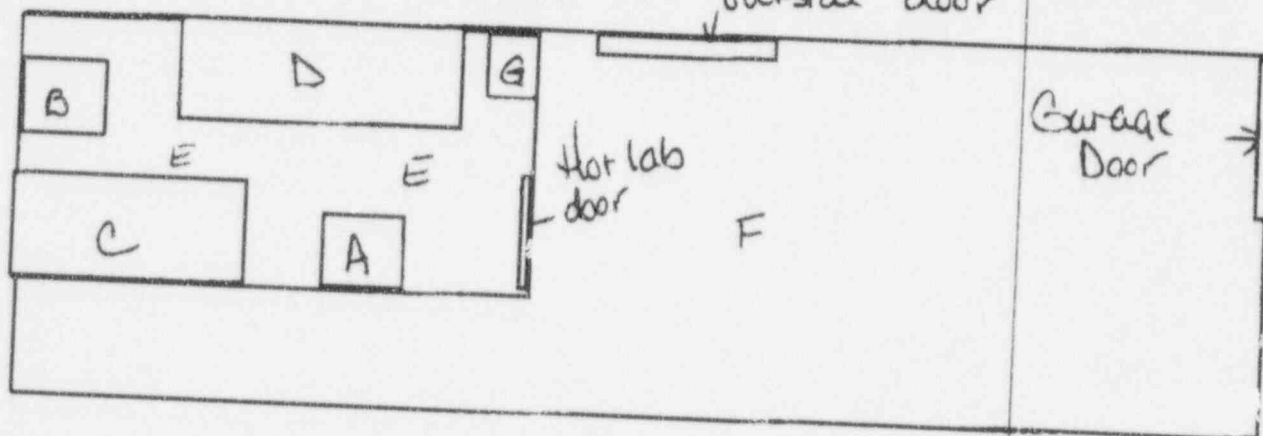
**CLOSE OUT SURVEY
MANSFIELD OHIO**

<u>LOCATION</u>	<u>mr/hr</u>	<u>net dpm</u>
A: RADWASTE AREA	.02	0
B: PHARMACY DROP-OFF	.02	7.7
C: TABLE 1	.02	0
D: TABLE 2	.02	9.9
E: OFFICE FLOOR	.02	0
F: CAMERA STORAGE	.02	0
G: COLD TRASH	.02	4.4
BKG:	.02	522
NOTIFY RSO IF OVER	5	2000
SURVEYOR:	<i>Fluor</i>	
DATE:	3/27/97	

Survey meter:

104619

outside door



Cs-137 Rod transferred to Pyl

124546



Thomas Jefferson University Hospital
Jefferson Health System

Department of Medicine

Division of Cardiology

132 South 10th Street
Philadelphia, PA 19107-5244
215-955-8660

February 12, 1997

To whom it may concern:

I came to know **Habib Bolourchi, M.D.** in October of 1995 through the QA/QC process of nuclear cardiology studies performed in association with Nuclear Imaging Systems, Inc. (N.I.S.). Between October 1995 and March 1996, I proctored Dr. Bolourchi in the interpretation of the clinical nuclear imaging studies performed on 133 patients. Dr. Bolourchi indicated that his involvement in the performance of these studies amounted to an average of 35 minutes per study or a total of 77.6 hours. In each of these studies, Cardiolite stress and rest myocardial perfusion images were separately acquired with approximately 83% SPECT and 17% planar imaging. Rest first pass wall motion studies were performed in 97% of these patients, and exercise first pass wall motion studies were done in roughly half of them. This amounts to more than 400 studies that were personally reviewed by me and separately by Dr. Bolourchi, which we then reviewed and discussed during our proctoring sessions. I found him to be very knowledgeable about the clinical aspects of the nuclear cardiology studies as evidenced by his appropriate selection of patients, stress test protocols and nuclear imaging techniques and he became highly competent in his ability to interpret nuclear cardiology studies. Since March 1996, he has interpreted his studies independently which are overread as part of the standard N.I.S. QA/QC process.

I can further attest to Dr. Bolourchi's competency to interpret nuclear cardiology studies on the basis of my overreading of his specific nuclear cardiology interpretations. Of the last 53 reports that I examined, I found that we agreed on the presence or absence of left ventricular dysfunction on the first pass wall motion studies in all patients, and that I concurred with the specific location of abnormalities in all but one segment each in two patients. In terms of the rest and stress perfusion studies, I did not disagree with his interpretation of there being evidence of normal perfusion, myocardial ischemia and/or scar in virtually any patients. I completely agreed with his assessment of segmental perfusion in 75% of the patients. In reviewing all patients, I concurred on a regional basis with his specific interpretations in over 90% of wall segments.

In summary, I feel that Dr. Bolourchi is competent to independently interpret nuclear cardiology studies.

Sincerely,

Joel S. Raichlen, MD, FACC, FACCP
Director, Noninvasive Cardiac Laboratories

JSR/gk



Soble Department of
Medicine

Sinai Hospital
6787 West Outer Drive
Detroit, Michigan 48235-2899
313 493-6363

Steven L. Rabinowe, M.D.
Chairman

October 8, 1996

To Whom It May Concern:

I am writing this letter on behalf of Habib Bolourchi, M.D. Dr. Bolourchi completed a fellowship in Cardiovascular Diseases from July, 1978 through June, 1980.

During this time Sinai Hospital's Cardiovascular Diseases fellowship program was and still is accredited by the American Council for Graduate Medical Education (ACGME). In order to meet the ACGME requirements, the fellowship curriculum required a four month (960 hours) rotation in Nuclear Medicine doing an average of 6-7 procedures per day. Dr. Bolourchi completed his fellowship satisfactorily.

If you have any further questions, please do not hesitate to contact me or my Education Coordinator, Betty Corr at (313) 493-5780.

Sincerely,

A handwritten signature in cursive script that reads 'Steven L. Rabinowe M.D.'.

Steven L. Rabinowe, M.D.

SLR:eac
g:\medadmiBolurch.sir

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HENLOPEN CARDIOLOGY, P.A.
HABIB BOLOURCHI, M.D., F.A.C.C.
4503 HIGHWAY ONE
REHOBOTH BEACH, DELAWARE 19971



DIPLOMATE
AMERICAN BOARD OF CARDIOVASCULAR MEDICINE
AMERICAN BOARD OF INTERNAL MEDICINE

(302) 645-7672
FAX: (302) 645-7842

CURRICULUM VITAE

Date of Birth:	December 31, 1947
Citizenship:	United States of America
Social Security Number:	355-58-4671
Medical School:	Faculty of Medicine, Tehran University Tehran, Iran. 1965-1972
Rotating Internship:	Norweigan American Hospital- Chicago, Illinois. 1974-1975
Internal Medicine : Residency	Siani Hospital of Detroit Detroit, Michigan. 1975-1978
Cardiovascular : Fellowship	Siani Hospital of Detroit Detroit, Michigan. 1978-1980
Chief: Section of : Cardiology	Beebe Medical Center July 1980- 1990
Chairman: Department : of Medicine	Beebe Medical Center July 1990-1994
Vice President: Department of : Medicine	Beebe Medical Center 1980-1990 1994-1996
Medical Director: CCU	Beebe Medical Center 1980-1990
Medical Director: Cardiac Lab	Beebe Medical Center 1980 to Present
ECFMG:	Certification # 163-964-0
Delaware State : License	#1853 as of March 4, 1990
Michigan State : License	#39432 as of September 1, 1977
Certified by American Board of :	Internal Medicine, September 9, 1978. Cardiovascular Medicine, November 29, 1985

Page 2 of 2.

Curriculum Vitae Continued

Research: Chief
Medical Collaborator:

Beebe Medical Center
ISIS-II, ISIS-III and ISIS-IV

Memberships:

Fellow, American College of Cardiology
American College of Physicians
American Society of Internal Medicine
American Medical Association

SINAI HOSPITAL of DETROIT

BLUMBERG PROFESSIONAL OFFICE BUILDING

14800 W. McNICOLS, DETROIT, MI 48235

SUITE 314

493-6570

Melvin Rubenfire, M.D., P.C.
Cardiology Consultants

Melvin Rubenfire, M.D.
Waldemar J. Wojcik, M.D.
Nicholas J. Kern, M.D.

October 17, 1979

M. Saberi, M.D. F.A.C.C.
Beebe Clinic
Lewes, Delaware 19958

Dear Dr. Saberi:

I am pleased to be able to recommend Habib Bolourchi to you. As you are aware, Habib has taken his post graduate training in Internal Medicine and Cardiology with us at Sinai Hospital of Detroit. He is a very personable, soft-spoken and humble individual. He has always been well liked by our house staff, nursing staff and attending physicians.

Habib has been a very capable resident and physician. He has been praised very frequently by his patients. He has a good attitude toward patient care and particularly toward the emotional needs of patients. He is complimented by them for his respect, concern and kindness.

Habib has done exceedingly well in his attainment of knowledge of internal medicine. As you are undoubtedly aware, he passed the Internal Medicine Boards without difficulty. His training in cardiology has gradually improved his skills in all areas. He is very capable in critical care cardiology, including the management of power failure, acute and chronic, and arrhythmias. Of course he has no difficulty in the bedside insertion of pacemaker electrodes, Swan Ganz catheters and arterial lines. His judgment has generally been above average for his level of training in the critical care situation. During his two years of training at Sinai in cardiology, Habib will have had a considerable amount of exposure to all phases of the non-invasive laboratory. He has a good understanding of the value and interpretive aspects of echocardiography, phonocardiography, Holter monitoring, stress testing and of course electrocardiography. He has spent several months on nuclear cardiology and if he wishes we will spend more time in that area to develop his skills further. In the Nuclear Cardiology Program (both inpatient and outpatient) he will have been exposed to thallium rest and stress studies, technetium studies, rest and exercise wall motion studies and other special types of isotope procedures including evaluation of shunts. If he wishes, he may become certified in nuclear medicine by taking our nuclear physics course.

Habib has not had extensive experience as of yet in the cardiac catheterization laboratory. If he wishes he may well develop these skills further. At this time he can perform right heart catheterizations and he has had some experience in left catheterizations and coronary angiography, but of a limited variety to date.

-2-

To: M. Saberi, M.D. FACC

Re: Habib Bolourchi, M.D.

Our training program is rather flexible and over the next 6-8 months Habib will decide which direction he will take. I have no hesitation in recommending him to you as a very warm, personable individual who will undoubtedly make a fine clinical cardiologist.

If there is any further information we can give in his regard, please let me know.

Sincerely,



Melvyn Rubenfire, M.D., Chief
Section of Cardiovascular Diseases

MR/j11

SINAI HOSPITAL of DETROIT

767 WEST OUTER DRIVE

DETROIT, MICHIGAN 48235

313 / 272.6000

SECTION OF CARDIOVASCULAR DISEASES

Department of Medicine

Moray Rubenfire M.D. Chief

Waldemar J. Walszczak M.D.

Nicholas Z. Kern M.D.

October 19, 1979

M. Saberi, M.D., F.A.C.C.
Beebe Clinic
Lewes, Delaware 19958

RE: Habib Bolourchi, M.D.

Dear Doctor Saberi:

Habib asked me to write a letter of recommendation to you. I have known him for a number of years, both as a physician in training here at Sinai Hospital and also socially. After completion of his training in internal medicine, Habib joined us in our program of training in cardiovascular medicine. He is now in his second year of training.

His performance during internal medicine training and knowledge of internal medicine has been very good. He has been liked very well and respected by his peers, teachers and patients. He is a very personable and well liked individual, sensitive to the needs of the patients, very gentlemanly in his behavior. In addition, I enjoyed very much having an opportunity to spend time socially with him and his wife.

At present, Habib is in his second year of training in Cardiology. He is performing very well. Because of the structure of the training program, during the first year he devoted most of his time to patient care, including cardiology service, staff and private consultations and intensive cardiac care including coronary intensive care unit and surgical intensive care unit, where he was taking care of post operative cardiovascular patients. During his training in internal medicine as well as in Cardiology, he became quite proficient and skillful in invasive monitoring methods, including insertion of CVP and pulmonary Swan-Ganz catheters and pacemaker catheters both with and without the use of fluoroscopic guidance. His training program in Cardiology so far included also full rotations through noninvasive laboratories, including holter monitoring, echocardiography, M-mode and 2-dimensional, exercise stress testing, phonocardiography with external pulse recording and systolic time interval calculations, Pacemaker Clinic and most recent rotation through Nuclear Cardiology program which includes thallium and technetium myocardial scanning, isotope angiograms for evaluation of left ventricular function with ejection fraction and wall motion and shunt detection. He is becoming very rapidly quite proficient in this field.

PAGE 2

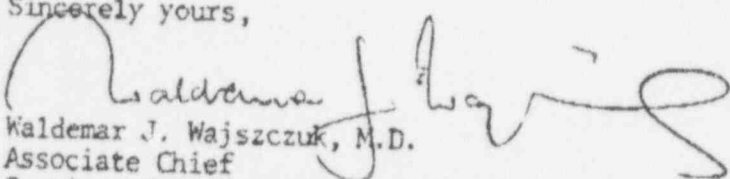
RE: Habib Bolourchi, M.D.
10/19/79

During the previous year, he had a short rotation through the catheterization laboratory where he had an opportunity to become familiar with the techniques of left heart catheterization and coronary arteriography including both brachial Sones and percutaneous Seldinger and Judkins techniques. In the months to come, he will still have at least four or six months rotation through the catheterization laboratory, where he will be able to perfect his techniques of right and left heart catheterization and coronary arteriography. He was quite familiar with the technique of right heart catheterization and of interpretation of hemodynamic measurements including valvular lesions and cardiac shunts, during his previous rotation as well as during his past experiences as a medical resident.

I anticipate that at the end of his 2-year training period with us, he will be a very well trained cardiologist, proficient in invasive methods of cardiac catheterization, including His bundle recording and stimulation studies, as well as in all noninvasive techniques. His current knowledge of bedside clinical cardiology is quite adequate and quite likely above average. His clinical judgment is very good. He reads current literature and makes good clinical use of it. I am sure that he will make an excellent cardiologist and I have no hesitations in recommending him to you for his fine qualities as a physician cardiologist and a friendly, likeable, warm and compassionate and responsible person.

If any additional information will be required, please do not hesitate to let me know.

Sincerely yours,



Waldemar J. Wajszczuk, M.D.
Associate Chief
Section of Cardiovascular Diseases

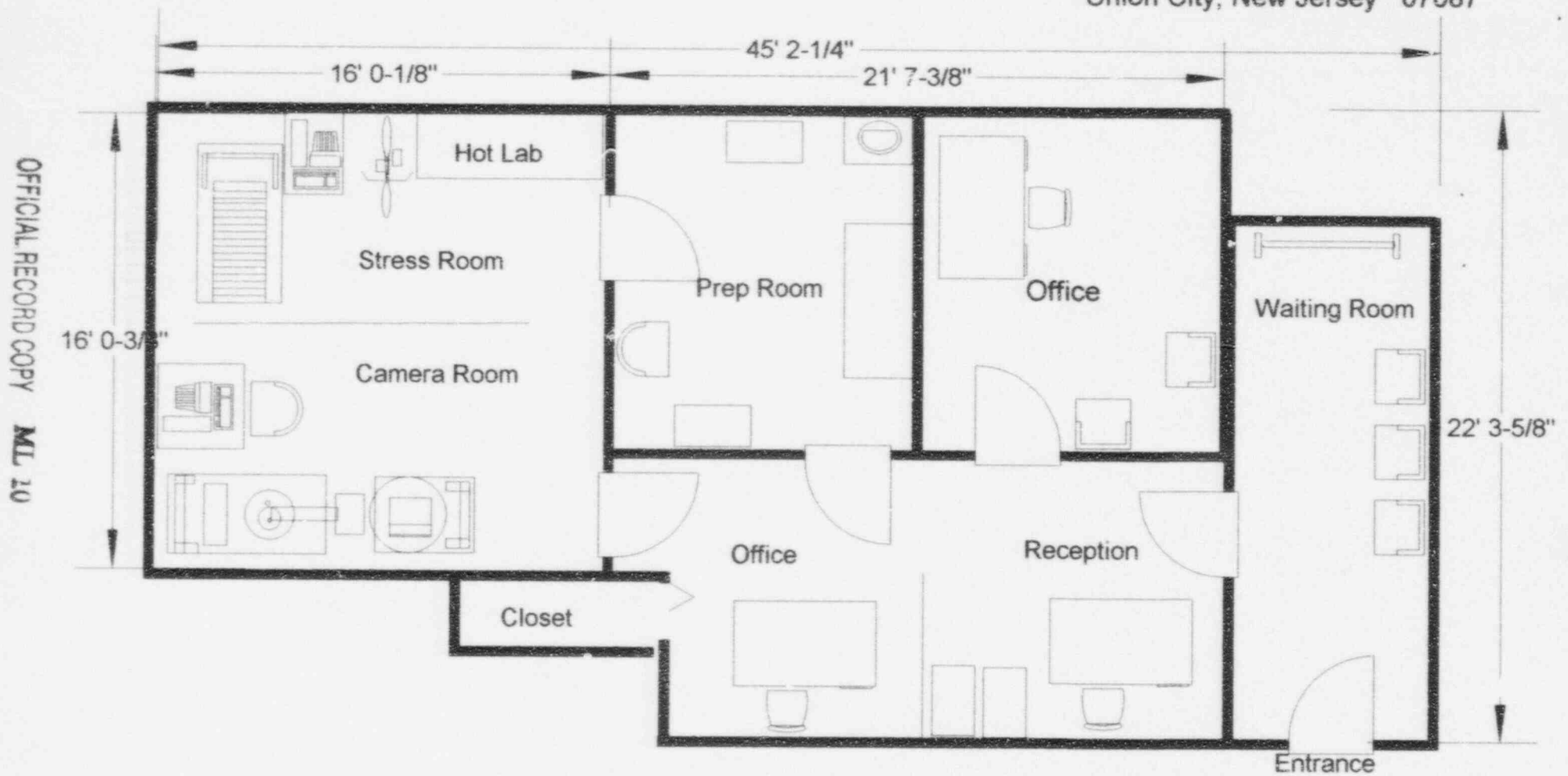
WJW/lag

NIS at Dr. Bolourchi's Office
4503 Highway 1
Rehoboth, DE 19971



124546

Union City Cardiac Imaging
4808 Bergenline Ave., Suite 602
Union City, New Jersey 07087



OFFICIAL RECORD COPY ML 20

124546

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections.

(FOR LFMS USE)
FORMATION FROM LTS

Program Code: 02220
Status Code: 0
Fee Category: 7C
Exp. Date: 20050731
Fee Comments: _____
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: NUCLEAR IMAGING SYSTEMS, INC.
Received Date: 970506
Docket No: 3031395
Control No.: 124546
License No.: 37-28453-01
Action Type: Amendment

2. FEE ATTACHED

Amount: \$ 880.00
Check No.: 8062

3. COMMENTS

Signed
Date

Byron, R. J.
5/8/97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / /)

1. Fee Category and Amount: 7C 8440

2. Correct Fee Paid. Application may be processed for:

Amendment _____
Renewal _____
License _____

3. OTHER

Signed
Date

I(97)

Log	<i>Gray</i>
Remitter	
Check No.	<i>8062</i>
Amount	<i>8550</i> 8440 - Remaining 440
Fee Category	<i>7C</i>
Type of Fee	<i>Amo</i>
Date Check Rec'd	<i>5/28/97</i>
Date Completed	<i>6/10/97</i>
By	<i>LB</i>

Applied to mail control

5/27/97
I called, talked to Mike regarding is there another amendment in-house since the check is for \$880? Yes, Mike will ask Rebecca to send it to me.

BB