

Blessing Hospital

1005 Broadway Quincy, Illinois 62301 (217) 223-5811

85 JUL 11 P3:47

July 1, 1985

Materials Licensing Branch
Division of Fuel Cycle and Material Safety
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Our NRC License #12-00780-04

Gentlemen:

Please amend our radioactive material license to reflect the fact that Mr. S. H. Subramanian has recently replaced Mr. Chin Chang Hwang as the Medical Physicist and Radiation Safety Officer of this hospital. A check for \$230.00 is enclosed.

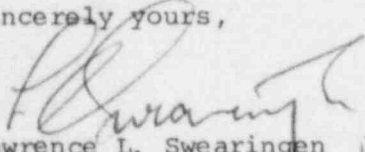
Mr. Subramanian's qualifications were reviewed and approved by our Radiation Safety Committee on June 28, 1985. He will be performing all of the duties of Mr. Hwang, such as those outlined in our letter sent to you in January 1984 (received by you on January 19, 1984).

Also, please accord to Mr. Subramanian the status of a qualified expert in order that he may continue the work of Mr. Hwang in conducting quality assurance procedures with our therapy units.

Enclosed are the credentials of Mr. S. H. Subramanian. If you have any questions on this matter, please contact him directly at (217) 223-5811, extension 1675.

Thank you for your consideration.

Sincerely yours,


Lawrence L. Swearingen
President

LLS:js

cc: Harry Wolin
Young Yu, M.D.
S. H. Subramanian
Earl Eliason

Applicant	July 7
Check No.	117879 \$230
Amount Fee Category	7.11
Type of Fee	amend
Date Check Rec'd	7/12/85
Received By	ef

U.S. NRC
FEE RECEIVED

85 JUL 17 P12:23

RECEIVED

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12-00780-04 PDR

19092

EXHIBIT B

NRC Form 3127 Supplement A (8-81) 10 CFR 35		U.S. NUCLEAR REGULATORY COMMISSION	
TRAINING AND EXPERIENCE PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER			
1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER S. H. Subramanian		2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE (If physician)	
3. CERTIFICATION			
SPECIALTY BOARD	CATEGORY	MONTH AND YEAR CERTIFIED	
American Board of Health Physics	Comprehensive Health Physics	August 1975 Renewed 1981	
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES (To be completed by institution providing training)			
FIELD OF TRAINING	LOCATION AND DATE(S) OF TRAINING	TYPE AND LENGTH OF TRAINING	
		LECTURE/LABORATORY COURSE (Hours)	FORMAL SUPERVISED OUT LABORATORY EXPERIENCE (Hours)
RADIATION PHYSICS AND INSTRUMENTATION	Bhabha Atomic Research Temple Univ. Center University of Kansas	1 year 9 x 16 = 144 12 x 16 = 192	9 years 6x16 = 96 9x16 = 144
RADIATION PROTECTION	B.A.R.C. Temple University University of Kansas	1 year 5 x 16 = 80 9 x 16 = 144	9 years 5x16 = 80 3x16 = 48
MATHEMATICS PERTAINING TO THE USE, MEASUREMENT, AND SHIELDING OF RADIOACTIVE SOURCES	B.A.R.C. Temple University University of Kansas	1 year 5 x 16 = 80 6 x 16 = 96	9 years - -
RADIATION BIOLOGY	B.A.R.C. Temple University University of Kansas	50 6 x 16 = 96 6 x 16 = 96	150 6x16 = 96 6x16 = 96
5. EXPERIENCE WITH RADIOACTIVE MATERIALS* (Actual use of radioisotopes or equivalent experience)			
ISOTOPE	MAXIMUM AMOUNT FOR ANY SINGLE APPLICATION	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE
Co-60	5000 Ci (Teletherapy)	B.A.R.C., Bombay	B.A.R.C. 10yrs.
Cs-137, Ir-192	1 Ci (Ind Rad)	B.A.R.C.	Temple 1 year
Ra-226	250 MCi	B.A.R.C.	U. of K. 3 yrs.
Various open & sealed	Microcurie - 100 millicuries	B.A.R.C., Univ. of Kansas, Pa., Temple	U. of Pa. 5 yrs.
TYPE OF USE			
Biomedical			
Teaching			
Research			
Clinical			
* Experience with sealed radioactive sources under the supervision of qualified instructors should include:			
1. Review of initial source calibration and periodic spot check measurements of teletherapy units		4. Preparation of treatment plans and treatment times for radiotherapy and brachytherapy	
2. In-hospital use of sealed sources other than teletherapy sources that are used for treatment purposes		5. Knowledge of appropriate radiation safety, quality control, and emergency procedures for handling and using sealed sources	
3. Calibration of an chamber and survey meter			
6. I CERTIFY THAT THE INFORMATION PRESENTED ABOVE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF (Signature of program supervisor)			
TYPED OR PRINTED NAME Harry Wolin, Vice President		DATE 7-5-85	
NAME OF INSTITUTION Blessing Hospital			
MAILING ADDRESS Broadway at 11th Street			
CITY Quincy	STATE Ill.	ZIP CODE 62301	RADIOACTIVE MATERIALS LICENSE NUMBER 12-00780-04
WARNING: 18 U.S.C. Section 1001, Act of June 25, 1948, 62 Stat. 749, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.			

*See also enclosed resume.

CURRICULUM VITAE

S.H. Subramanian
129 1/2 North 9th Street
Quincy, Illinois 62301
Phone (217) 222-5687

EDUCATION

- 1983-84 MBA University of Kentucky. Courses included areas of Finance, Management, Data Analysis, Marketing, Information Systems, Business Policy, Business Law, and Personnel.
- 1980-81 M.S. University of Kentucky in Computer Science. Besides basic Computer Science courses, I also took courses in Physics of Diagnostic Radiology, Nuclear Medicine Instrumentation and Methods and Statistics. Gained proficiency in several programming languages including Fortran, Pascal and Assembler.
- 1978-79 ABD University of Kansas in Radiation Biophysics. Courses included Radiation Dosimetry, Medical Physics, Radiobiology, Radiation Therapy Physics, Reactor Safety, Advanced Topics in Radiobiology, Radiation Dosimetry and Shielding.
- 1971-72 M.S. Temple University in Radiological Health. Courses included Xrays, Isotope Methodology, Health Physics, Radioecology, Environmental Radioassay, Radiation Biology, Electronics, Statistics and Programming.
- 1955-59 B.Sc. University of Madras, Madras, India with Physics, Chemistry and Mathematics.

CERTIFICATION

- 1975 CHP Comprehensive certification in Health Physics, American Board of Health Physics, renewed till 1985. Area of specialty - Radiation Safety in Medicine and Biology.
- 1975 CRESO Certification in Radiation Equipment Safety, N.Y. State Department of Health.

EXPERIENCE

- 1985- Medical Physicist/RSO at Blessing Hospital, Quincy, Illinois. Very comprehensive responsibilities in the areas of Radiation Therapy, Nuclear Medicine, Diagnostic Radiology and Radiation Safety. For details, see the job description attached.
- 1981-84 Instructor, Computer Information Systems, Eastern Kentucky University, Richmond, Kentucky. Taught courses in Computers and Data Processing as well as programming in Fortran, RPG and BASIC.
- 1973-78 Health Physicist at the University of Pennsylvania, Philadelphia. Job involved assisting the RSO in all matters of Radiation Safety in a university with a broad license. Specific duties included:
- . Surveys of all areas where radiation was used in campus
 - . Calibration and maintenance of radiation measuring equipment
 - . Technical advice to radiation users in campus
 - . Preparation and use of TLD monitors for a variety of reasons
 - . Hazard evaluation for special procedures (protein iodination)

- . Development of special monitoring techniques
- . Investigation and followup of emergencies
- . Radiation Safety of Xray machines/Brachytherapy sources
- . Collection and disposal of radioactive wastes

The university's broad license encompassed three hospitals, a very large biological research laboratory and nearly 150 users.

1972-73

Research Assistant in Nuclear Medicine, Washington University in St. Louis. Participated in research involving characterization of brain tissue following injection of radioactive microspheres or following tumor induction. Was also responsible for radiation safety on the project.

1969-71 &
1978-79

Graduate Assistant at the University of Kansas. Duties varied each semester and included:

- . Air and water monitoring for a 1 MW research reactor
- . Surveys of campus areas where radiation was used
- . Leak testing of radiation sources
- . Calibration of radiation measuring instruments
- . Collection and disposal of radioactive wastes
- . Teaching lab portions of courses in Radiation Biophysics
- . Teaching high school students in summer science camp

1959-69

Scientific Officer at BARC, Bombay, India. Duties included:

- . Treatment planning for Xray and Teletherapy sources
- . Calibration and Quality Assurance of Xray/Teletherapy units
- . Theoretical and experimental plotting of isodose curves
- . Installation planning and shielding calculations
- . Technical advice to radiation users all over India
- . Primary standardization of radioisotopes using coincidence, semiconductor and liquid scintillation counting
- . Radiation surveys in medical, industrial, agricultural and research institutions all over India
- . Writing of technical pamphlets for radiation users
- . Teaching lab courses in Radiological Physics
- . Maintenance of sources storage room and allied records

HONORS

1980-81	University Fellowship, University of Kentucky
1979-80	Dissertation Fellowship, University of Kansas
1979	Summer Fellowship, University of Kansas
1978-79	Teaching Assistant, University of Kansas
1975	Certification in Radiation Equipment Safety, N.Y. State
1975	Certification in Health Physics, American Board of Health Physics
1971-72	U.S.P.H.S. Fellowship, Temple University
1969-71	Graduate Assistant, University of Kansas

SOCIETIES

1972-	American Association of Physicists in Medicine
1972-	Health Physics Society
1972-	International Radiation Protection Association
1969-	Hospital Physicists Association, London

REFERENCES

Will be provided on request.

American Board of Health Physics

Be it known that

Sivaraman Harihara Subramanian

has satisfactorily met the professional standards established by the

American Board of Health Physics

and is hereby certified in

HEALTH PHYSICS

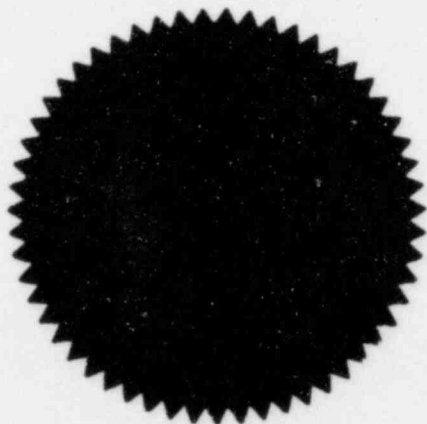
August 1, 1975
date

W.C. Reineg

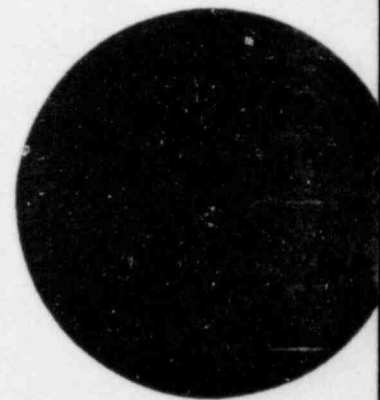
chairman

Bruce L. Rich

secretary



ORIGINAL SEAL



RENEWAL SEAL

TEMPLE · UNIVERSITY

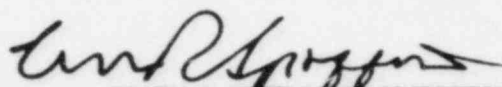
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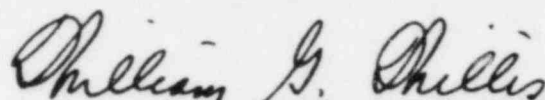
BY · AUTHORITY · OF · THE · BOARD · OF · TRUSTEES · AND · UPON · RECOMMENDATION
OF · THE · FACULTY · HEREBY · CONFERS · UPON

~ Sivaraman K. Subramanian ~

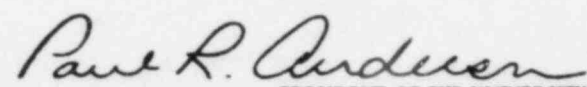
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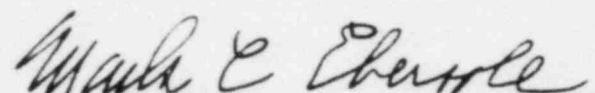
TOGETHER · WITH · ALL · THE · RIGHTS · PRIVILEGES · AND · HONORS · APPERTAINING
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OF · THE · COURSE · PRESCRIBED · BY · THE · FACULTY · OF · THE · UNIVERSITY
IN · TESTIMONY · WHEREOF · THE · UNDERSIGNED · HAVE · SUBSCRIBED
THEIR · NAMES · AND · AFFIXED · THE · SEAL · OF · THE · UNIVERSITY
GIVEN · AT · PHILADELPHIA · PENNSYLVANIA · ON · THIS · NINETEENTH · DAY · OF
JANUARY · NINETEEN · HUNDRED · AND · SEVENTY · THREE


CHAIRMAN OF THE BOARD OF TRUSTEES


SECRETARY OF THE UNIVERSITY




PRESIDENT OF THE UNIVERSITY


DEAN



TEMPLE UNIVERSITY

OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION
PHILADELPHIA, PENNSYLVANIA 19122

OFFICE OF ACADEMIC RECORDS

02/73

STUDENT NUMBER 277666
SCHOOL OR COLLEGE SCHOOL OF PHARMACY
UNDERGRADUATE CURR. ENVIRONMENTAL HEALTH
GRADUATE DIVISION

BIRTH DATE 00
SEX MALE

NAME SUBRAMANIAN (LAST) SIVARAMAN H
HOME FOREIGN STUDENT OFFICE
ADDRESS TEMPLE UNIVERSITY
PHILA PA 19122

DEPARTMENT	COURSE NUMBER	COURSE DESCRIPTION	SEM HRS	GRD	DEPARTMENT	COURSE NUMBER	COURSE DESCRIPTION	SEM HRS	GRD	MEMORANDA
PHARMACY	SCH.	FALL SEMESTER 1971		GRAD.						C 5A--853-4C O 5A--753-3E
INF SCI	401. E	INTRO COMP PR & APP	3.0	A						
PHAR CH	441.	ELECTRONICS I	3.0	B						
PHAR CH	443.	ELECTRONICS II	2.5	B						
PHAR CH	447.	X-RAYS I	2.0	A						
PHAR CH	449.	ISOTOPE METH	4.0	A						
PHAR CH	523.	RADIOECOLOGY	2.0	A						
PHARMACY	SCH.	SPRING SEMESTER 1972		GRAD.						
PHARCOL	448.	X-RAYS II	2.0	A						
PHARCOL	524.	RADIATION BIOLOGY	3.0	A						
PHARCOL	526.	HEALTH PHYSICS	4.5	A						
PHARCOL	540.	ENVIRONMENTAL RADIOASSAY	4.0	A						
HLTH AD	501.	ECOLOGY & PUBLIC HEALTH	3.0	A						
RUSSIAN	006. E	ELEMENTS	3.0	B						
PHARSCI	558.	PHARM CHEM SEMINAR	1.0	A						
PHARMAC	SCH.	REG. SUMMER SESSION 1972		GRAD.						
STAT	402. E	STAT ANAL	3.0	P						
										M.S. 01/73

GRADING KEY

A - EXCELLENT

B - GOOD

C - FAIR

D - PASSING - NOT ACCEPTABLE FOR GRAD. CR

F - FAILURE

W - WITHDRAWN

I - INCOMPLETE

NR - GRADE NOT REPORTED

P - PASS

IP - INCOMPLETE IN PASS/FAIL COURSE

H - HONORS

CR - CREDIT

NO CR - NO CREDIT

@ - NOT FOR GRADUATE CREDIT

± - FOR GRADUATE CREDIT

* - NOT APPLICABLE TOWARD DEGREE

NOT OFFICIAL WITHOUT SEAL AND SIGNATURE OF DIRECTOR OF ACADEMIC RECORDS

UBRAMANIAN Sivaraman Harihara 134986

Name Student No.

July 31, 1940

1954

Date of Birth

Year of Graduation from H.S.

B.C.C.C.'s

Perambur

Name of High School

Town

State

India

Sac. Sec. No.

Country of Citizenship

Previous Degrees

Institution Degree Major GPA

oyola College, India B.Sc Physics

'59

Admission: Regular

4/23/69

Admitted for: Fall 1969

Date

term

to work toward the Ph. D. degree in the

major field of Radiation Biophysics

offered by the Dept. of Radiation Biophysics

Examinations:

9/27/69 Reading Knowledge in French:
Passed8-25-79 Comprehensive Oral for
Doctorate: Satisfactory
Exam. Comm.: B. Friesen, chm.,
L. Boach, J. Zimbrick,
E. Shaw, R. Bearse.

Appointments

Grad Assistant 50%, 6/1/70-7/31/70

Grad Assistant 50%, 7/1/70-5/31/71

THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY
ACT OF 1974: This information is released to you with
the understanding that it will not be released to a third
party without the student's written consent.

Office of the Registrar

THE UNIVERSITY OF KANSAS

Lawrence, Kansas

PERMANENT RECORD

FALL 1969
CHEM 173
BIOP 105
BIOP 107A
BIOP 108

GRADUATE 134986
PHYSICAL CHEMIST I
RADIATN PROTECTION
BASIC RADIA INSTRU
RADIA DETEC ELEC I

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SPRING 1970
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BIOC 151
CHEM 174
BIOP 109

GRADUATE 134986
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BIOP 076J
BIOP 0810
BIOP 0922

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SUMMER 1979
BIOP 0999

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SUBRAMANIAN, Sivaraman Harihara 134986

Name _____ Student No. _____

July 31, 1940

Date of Birth _____

Previous Degrees

Institution	Degree	Date

Admitted for _____ term

to work toward the _____ degree

offered by the Dept. of _____

**ISSUED TO
STUDENT**

THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974: This information is released to you with the understanding that it will not be released to a third party without the student's written consent.

Office of Admissions and Records
THE UNIVERSITY OF KANSAS
 Lawrence, Kansas
 PERMANENT RECORD

SPRING 1983	134986 6 GRADUATE A			
BIOP 0999	RESEARCH	1	P	
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SPRING 1984	134986 6 GRADUATE A			
BIOP 0999	RESEARCH	2	P	
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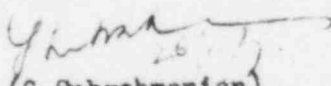
GOVERNMENT OF INDIA
BHABHA ATOMIC RESEARCH CENTRE
Directorate of Radiation Protection

Ref: DRP/SHS/C-1760 /70

October 26, 1970

Mr. S.H.Subramanian has been known to me for the past twelve years. He joined the Directorate of Radiation Protection, Bhabha Atomic Research Centre in the year 1959. During the period of his service here, he has been associated with a large number of projects in radiation protection. He has been primarily interested in radiation installation planning, tendering of advice to radiation users in various fields such as medicine, industry, agriculture and research, radiation standardisation and hospital physics. He has got a quick grasp in all the above topics. Besides he has been associated in the conduct of radiological protection surveys of institutions using radiation sources.

I am confident with his background in all the radiation protection problems and hospital physics, he can be an asset to any institution needing a man of this calibre. His character and conduct are good.


(G. Subrahmanian)
Scientific Officer (SE)
Directorate of Radiation Protection

GS:vnr:
26.10.70

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