

OFFICIAL RECORD COPY MATERIALS LICENSE

Amendment No. 23

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.

Licensee		In accordance with your letter dated September 30, 1996	
1. St. Mary's Hospital		3. License Number	47-09576-02
2. 2900 First Avenue Huntington, West Virginia 25702		is amended in its entirety to read as follows:	
		4. Expiration Date	September 30, 2000 (extended)
		5. Docket or Reference No.	030-09717
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. Cobalt 60	A. Teletherapy sealed sources registered pursuant to 10 CFR 32.210 or an equivalent Agreement State regulation	A. 732.6 terabecquerels (19,800 curies) in 2 sources, not more than 366.3 terabecquerels (9,900 curies) each	
B. Uranium (depleted in the isotope Uranium 235)	B. Metal teletherapy components	B. 113.4 kilograms	
9. Authorized Use:			
A. One source to be used in a Theratron Model Theratron 1000 teletherapy unit for medical use identified in 10 CFR 35.600, and irradiation of blood and blood components, and irradiation of small animals for research. One source in its shipping container to be in possession of the licensee as necessary for the replacement of the sources in the teletherapy unit only.			
B. For possession and use as contained shielding in a Theratron Model 1000 teletherapy unit.			

150041

CONDITIONS

10. Licensed material shall be used only at St. Mary's Hospital, Department of Radiology, Room G 60, 2900 First Avenue, Huntington, West Virginia.
11. A. Radiation Safety Officer: M. Douglass Allan, M.S., and in his absence, Philip B. Lepanto, M.D.
B. Teletherapy Physicist: M. Douglass Allan, M.S.

9611150105 961024
PDR ADOCK 03009717
C PDR

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

47-09576-02

Docket or Reference Number

030-09717

Amendment No. 23

CONDITIONS

Continued -

12. Authorized Users:

- A. Philip B. Lepanto, M.D. medical teletherapy as specified in 10 CFR 35.600, irradiation of blood and blood components, and the irradiation of small animals for research.
- B. Hans W. Dransfeld, M.D. medical teletherapy as specified in 10 CFR 35.600, irradiation of blood and blood components, and the irradiation of small animals for research.
- C. Charles McKown, M.D. medical teletherapy as specified in 10 CFR 35.600, irradiation of blood and blood components, and the irradiation of small animals for research.
- D. Thomas Robinson, M.D. medical teletherapy as specified in 10 CFR 35.600, irradiation of blood and blood components, and the irradiation of small animals for research.
- E. M. Douglass Allan, M.S. system calibration and testing, irradiation of blood and blood components, and the irradiation of small animals for research.
- F. Daniel John Murphy, Jr. M.D., Ph.D. medical teletherapy as specified in 10 CFR 35.600, irradiation of blood and blood components, and the irradiation of small animals for research.

13. Sealed sources containing licensed material shall not be opened or removed from the teletherapy systems by the licensee.
14. The licensee is exempted from the decommissioning financial assurance requirements for possession of licensed material in sealed sources in quantities greater than the limits in 10 CFR 30.35(d), for the purpose of source changes only. The exemption is granted for no more than thirty days for any one source change.
15. The licensee shall maintain records of information important to safe and effective decommissioning at the licensee's facility located at 2900 First Avenue, Huntington, West Virginia in accordance with the provisions of 10 CFR, Part 30.35(g) until this license is terminated by the Commission.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

47-09576-02

Docket or Reference Number

030-09717

Amendment No. 23

CONDITIONS

Continued -

16. Except as specifically provided otherwise in this license and except as provided by 10 CFR, Part 35.31, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The 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 July 13, 1990 [renewal, obtain new Theratronics 1000 teletherapy unit]

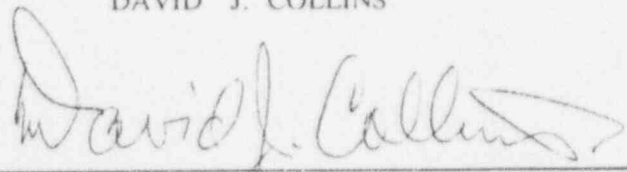
B. Letters dated:

- | | |
|-----------------------|---|
| 1. September 17, 1990 | [reply to renewal deficiency ltr] |
| 2. September 25, 1990 | [increase single Co-60 source from 6,000 to 9,900 Ci] |
| 3. December 5, 1990 | w/surveys [shielding survey new Theratronics 1000 Unit] |
| 4. October 25, 1995 | w/surveys [shielding survey Theratronics 1000, new Co-60 source] |
| 5. May 3, 1996 | [allow decay-in-storage room adjacent to teletherapy (equipped with motion detector and door-open interlock to trip teletherapy unit off), add alternate RSO] |
| 6. September 30, 1996 | [add authorized user] |
| 7. October 24, 1996 | [additional information for 9/30 request] |

C. Reference NRC letter dated March 1, 1996 extension of expiration date per 10 CFR 30.34.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

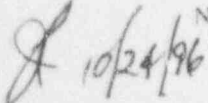
DAVID J. COLLINS

DATE 007 2 1 1996

BY

Region II, Division of Nuclear Materials Safety
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323-0199

N:\MLICENSE\47-09576.A23





UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0198

OCT 24 1996

INFORMATION FOR NRC MATERIAL LICENSEES

Please find enclosed:

- ☒ Your NRC material license
- ☐ Amendment to your NRC material license
- ☐ Amendment renewing your NRC material license
- ☐ Amendment terminating your NRC material license
- ☐ Notice for Radiographer Quality Assurance Approval Program

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify this office (ATTN: Ms. Diane Heim at (404) 331-4673) so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day in the month and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR 19, "Notice, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Not possess and use materials authorized in Items 6, 7, and 8, on the license until:
 - a. you have constructed the facilities and obtained the equipment described in the license application and supporting documentation; and
 - b. you have notified the U. S. Nuclear Regulatory Commission, Region II, ATTN: Materials Licensing/Inspection Branch, in writing, that activities authorized by the license will be initiated.
 - c. you have submitted & certified implementation of a Quality Management Program (10 CFR 35.32) for radiotherapy, or for administering > 30 uCi of I-125 or I-131.
3. Notify NRC, in writing, within 30 days:
 - a. when an authorized user, Radiation Safety Officer, or Teletherapy Physicist permanently discontinues performance of duties under the license or has a name change; or
 - b. when the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).
4. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. when you decide to terminate all activities involving materials authorized under the license; or
 - b. if you decide not to complete the facility, acquire equipment, or possess and use authorized material.

5. Request and obtain a license amendment before you:

- a. receive or use byproduct material for a clinical procedure permitted under Part 35 but not permitted by your license issued pursuant to this part.
- b. permit anyone, not authorized under 10 CFR 35, Subpart J, to work as an authorized user under a license for medical use of byproduct material.
- c. permit anyone, not authorized under 10 CFR 35, Subpart J, to work as a Radiation Safety Officer, Teletherapy Physicist, or Nuclear Pharmacist, under a license for medical use of byproduct material.
- d. order byproduct material in excess of the amount, or a different radionuclide or form, other than authorized on the license;
- e. add or change the areas of use or address (or addresses) of use identified in the license application or on the license; or
- f. change ownership of your organization.

6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. Transfer of licensed materials must be consistent with 10 CFR 30.41, 40.51 or 70.42, as applicable. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a Notice of Violation, or imposition of a Civil Penalty, or an order suspending, modifying or revoking your license as specified in the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, (7/95). Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken against those who do not achieve the necessary attention to detail and standard of compliance expected of licensees.

Thank you for your cooperation.

Enclosures:

1. NRC License
2. Category Marked Below for:
 - ☐ New licenses: NUREG-1600 (7/95); 19; 20; 30; 40 or 70, as appropriate; 71; 170; NRC Form 3. Agreement State list; and NRC Form 313.
 - ☐ New radiography licenses: Parts 34; 150.
 - ☐ New medical and teletherapy licenses: Part 35.
 - ☐ Amendments and renewals: NRC Form 313.



October 24, 1996

Orysia Bailey
U.S. Nuclear Regulatory Commission, Region II
101 Marietta Street, N.W., Suite 2900
Atlanta, GA 30323-0199

Re: NRC License 47-09576-02

Dear Ms. Bailey:

Thank you for your phone call a few minutes ago, requesting more specific information concerning our October 3, 1996 application to add Daniel John Murphy, Jr., Ph.D., M.D. as an authorized user. We neglected to specify how we wanted him to use our Cobalt teletherapy unit.

We request that he be an authorized user for medical teletherapy as specified in 10 CFR 35.600, irradiation of blood and blood components, and the irradiation of small animals for research.

Thank you for calling this omission to my attention.

If you need any more information, please call me.

Sincerely,

M. Douglass Allan

M. Douglass Allan, M.S.
Radiation Safety Officer

IAW 35.13

June 1989

(3) Mathematics pertaining to the use and measurement of radioactivity; and
(4) Radiation biology;

(b) Supervised clinical training in ophthalmic radiotherapy under the supervision of an authorized user at a medical institution that includes the use of strontium-90 for the ophthalmic treatment of five individuals that includes:

- (1) Examination of each individual to be treated;
- (2) Calculation of the dose to be administered;
- (3) Administration of the dose; and
- (4) Followup and review of each individual's case history.

§ 35.950 Training for use of sealed sources for diagnosis.

Except as provided in § 35.970, the licensee shall require the authorized user of a sealed source in a device listed in § 35.500 to be a physician, dentist, or podiatrist who:

(a) Is certified in:
(1) Radiology, diagnostic radiology, therapeutic radiology, or radiation oncology by the American Board of Radiology;

(2) Nuclear medicine by the American Board of Nuclear Medicine;

(3) Diagnostic radiology or radiology by the American Osteopathic Board of Radiology; or

(4) Nuclear medicine by the Royal College of Physicians and Surgeons of Canada; or

(b) Has had 8 hours of classroom and laboratory training in basic radioisotope handling techniques specifically applicable to the use of the device that includes:

(1) Radiation physics, mathematics pertaining to the use and measurement of radioactivity, and instrumentation;

(2) Radiation biology;

(3) Radiation protection; and

(4) Training in the use of the device for the uses requested.

[51 FR 36951, Oct. 16, 1986, as amended at 59 FR 61786, Dec. 2, 1994]

§ 35.960 Training for teletherapy.

Except as provided in § 35.970, the licensee shall require the authorized user of a sealed source listed in § 35.600 in a teletherapy unit to be a physician who:

(a) Is certified in:

(1) Radiology, therapeutic radiology, or radiation oncology by the American Board of Radiology;

(2) Radiation oncology by the American Osteopathic Board of Radiology;

(3) Radiology, with specialization in radiotherapy, as a British "Fellow of the Faculty of Radiology" or "Fellow of the Royal College of Radiology"; or

(4) Therapeutic radiology by the Canadian Royal College of Physicians and Surgeons; or

(b) Is in the active practice of therapeutic radiology, and has had classroom and laboratory training in basic radioisotope techniques applicable to the use of a sealed source in a teletherapy unit, supervised work experience, and supervised clinical experience as follows:

(1) 200 hours of classroom and laboratory training that includes:

(i) Radiation physics and instrumentation;

(ii) Radiation protection;

(iii) Mathematics pertaining to the use and measurement of radioactivity; and

(iv) Radiation biology;

(2) 500 hours of supervised work experience under the supervision of an authorized user at a medical institution that includes:

(i) Review of the full calibration measurements and periodic spot checks;

(ii) Preparing treatment plans and calculating treatment times;

(iii) Using administrative controls to prevent misadministrations;

(iv) Implementing emergency procedures to be followed in the event of the abnormal operation of a teletherapy unit or console; and

(v) Checking and using survey meters; and

(3) Three years of supervised clinical experience that includes one year in a formal training program approved by the Residency Review Committee for Radiology of the Accreditation Council for Graduate Medical Education or the Committee on Postdoctoral Training of the American Osteopathic Association and an additional two years of clinical experience in therapeutic radiology under the supervision of an authorized

user at a medical institution that includes:

(i) Examining individuals and reviewing their case histories to determine their suitability for teletherapy treatment, and any limitations or contraindications;

(ii) Selecting the proper dose and how it is to be administered;

(iii) Calculating the teletherapy doses and collaborating with the authorized user in the review of patients' or human research subjects' progress and consideration of the need to modify originally prescribed doses as warranted by patients' or human research subjects' reaction to radiation; and

(iv) Post-administration followup and review of case histories.

[51 FR 36951, Oct. 16, 1986, as amended at 59 FR 61786, Dec. 2, 1994]

§ 35.961 Training for teletherapy physicist.

The licensee shall require the teletherapy physicist to be an individual who:

(a) Is certified by the American Board of Radiology in:

(1) Therapeutic radiological physics;

(2) Roentgen ray and gamma ray physics;

(3) X-ray and radium physics; or

(4) Radiological physics; or

(b) Is certified by the American Board of Medical Physics in radiation oncology physics; or

(c) Holds a master's or doctor's degree in physics, biophysics, radiological physics, or health physics, and has completed one year of full time training in therapeutic radiological physics and an additional year of full time work experience under the supervision of a teletherapy physicist at a medical institution that includes the tasks listed in §§ 35.59, 35.632, 35.634, and 35.641 of this part.

[51 FR 36951, Oct. 16, 1986, as amended at 59 FR 61786, Dec. 2, 1994]

§ 35.970 Training for experienced authorized users.

Physicians, dentists, or podiatrists identified as authorized users for the medical, dental, or podiatric use of by-product material on a Commission or Agreement State license issued before April 1, 1987 who perform only those

methods of use for which they were authorized on that date need not comply with the training requirements of part J.

§ 35.971 Physician training in a 12 month program.

A physician who, before July 1, began a three month nuclear medical training program approved by the Accreditation Council for Graduate Medical Education and has successfully completed the program need not comply with the requirements of §§ 35.91-35.920.

§ 35.972 Recentness of training.

The training and experience specified in this subpart must have been obtained within the 7 years preceding date of application or the individual must have had related continuing education and experience since the required training and experience completed.

[59 FR 61786, Dec. 2, 1994]

§ 35.980 Training for an authorized clear pharmacist.

The licensee shall require the authorized nuclear pharmacist to be a pharmacist who:

(a) Has current board certification as a nuclear pharmacist by the Board of Pharmaceutical Specialties, or

(b)(1) Has completed 700 hours structured educational program consisting of both:

(i) Didactic training in the following areas:

(A) Radiation physics and instrumentation;

(B) Radiation protection;

(C) Mathematics pertaining to use and measurement of radioactivity;

(D) Chemistry of byproduct material for medical use; and

(E) Radiation biology; and

(ii) Supervised experience in a clear pharmacy involving the following:

(A) Shipping, receiving, and performing related radiation surveys;

(B) Using and performing check proper operation of dose calibration survey meters, and, if appropriate, instruments used to measure alpha-beta-emitting radionuclides;

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

: (FOR LFMS USE)
: INFORMATION FROM LTS
:
:
: Program Code: 02300
: Status Code: 0
: Fee Category: 7A
: Exp. Date: 20000930
: Fee Comments: CODE 21
: Decom Fin Assur Req'd: %
:

1996 OCT 21 PM 3:31

LICENSE FEE TRANSMITTAL

A. REGION II

1. APPLICATION ATTACHED

Applicant/Licensee: ST. MARY'S HOSPITAL
Received Date: 961015
Docket No: 3009717
Control No.: 257232
License No.: 47-09576-02
Action Type: Amendment

2. FEE ATTACHED

Amount: 470.00
Check No.: 198881

3. COMMENTS

Signed DIANE HEIM
Date 10/16/96

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

1. Fee Category and Amount: 7A \$470
2. Correct Fee Paid. Application may be processed for:
Amendment ✓
Renewal _____
License _____

3. OTHER _____

Signed _____
Date 10/23/96

Log	<u>Oct 21</u>
Remitter	_____
Check No.	<u>198881</u>
Amount	<u>\$470</u>
Fee Category	<u>7A</u>
Type of Fee	<u>Amendment</u>
Date Check Rec'd.	_____
Date Completed	<u>10/22/96</u>
By:	<u>Heim</u>



September 30, 1996

U.S. Nuclear Regulatory Commission, Region II
101 Marietta Street, N.W., Suite 2900
Atlanta, GA 30323-0199

Re: NRC License 47-09576-02

Dear Reviewer:

We are requesting addition of Daniel John Murphy, Jr., Ph.D., M.D. as an authorized user of our Cobalt 60 Teletherapy unit.

Enclosed are a check for \$470.00 to cover the amendment request fee and a copy of his very extensive credentials. You may find two publications to which he contributed to be of particular interest:

"Independent Verification Options for Inspecting Nuclear Power Plant Facilities", U.S. Nuclear Regulatory Commission Report NUREG/CR-0826, September 1979.

"Allocation of NRC Inspection Effort to Risk-Related Activities in Nuclear Power Plants", U.S. Nuclear Regulatory Commission Report NUREG/CR-1338, April 1980.

If you require additional information, please contact me at (304)526-1273 or our Radiation Safety Officer (M. Douglass Allan) at 526-1143.

Please remove the name of the late Gary Tolley, M.D. from the license.

Thank you for your consideration of our request.

Sincerely,

Jack Christian
Jack Christian

Assistant Executive Director

257232

SUPPLEMENT A
TRAINING AND EXPERIENCE
PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER Daniel John Murphy, Jr., Ph.D., M.D.	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE (If physician) On page 3 of C.V.
---	--

3. CERTIFICATION		
SPECIALTY BOARD	CATEGORY	MONTH AND YEAR CERTIFIED
American Board of Radiology	Radiation Oncology	June, 1989

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 OJT/LABORATORY EXPERIENCE (Hours)
RADIATION PHYSICS AND INSTRUMENTATION			
RADIATION PROTECTION			
MATHEMATICS PERTAINING TO THE USE, MEASUREMENT, AND SHIELDING OF RADIOACTIVE SOURCES			
RADIATION BIOLOGY			

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	TYPE OF USE

* 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.
2. Initial source calibration of sealed sources other than teletherapy sources that are used for treatment purposes.
3. Calibration of ion chambers and survey meters. | 4. Preparation of treatment plans and treatment times for brachytherapy and brachytherapy.
5. Knowledge of appropriate radiation safety, quality control, and emergency procedures for handling and using sealed sources. |
|---|--|

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	DATE
NAME OF INSTITUTION	
MAILING ADDRESS	
CITY	STATE ZIP CODE RADIOACTIVE MATERIALS LICENSE NUMBER

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.

MEDICAL DOCTOR ASSOCIATES

3495 Holcomb Bridge Road
Norcross, GA 30092

F A X C O V E R

DATE: May 21, 1996 11:44 AM

TO: Doug Allen

PHONE: 304/526-1143 FAX: 304/526-8945

Radiation Safety Officer

FROM: Bob Paschall
Medical Doctor Assoc.

PHONE: 800/780-3500 or 770/246-9191
FAX: 770/246-0882 or 800/883-4514

RE: Information for NRC license

CC:

Number of pages including cover sheet: 5

Message

Following this page please find the MS and Ph.D. information on Dr. Dan Murphy showing his training in Nuclear Engineering to assist in getting him added to your NRC permit with Cobalt use. Let me know if there is anything else I can provide to help with this.

BOB PASCHALL

Thanks for the Opportunity to Work with you.

3495 Holcomb Bridge Road • Norcross, Georgia 30092
800-780-3500 • (770) 246-9191 • FAX: (770) 246-0882

Offices also located in Denver and Salt Lake City.

UNIVERSITY OF ARIZONA

THE ARIZONA BOARD OF REGENTS BY VIRTUE OF THE AUTHORITY VESTED
IN IT BY LAW AND ON RECOMMENDATION OF THE UNIVERSITY FACULTY
DOES HEREBY CONFER ON

DANIEL JOHN MURPHY, JR.

WHO HAS SATISFACTORILY COMPLETED THE STUDIES PRESCRIBED THEREFOR
THE DEGREE OF

MASTER OF SCIENCE

WITH ALL THE RIGHTS PRIVILEGES AND HONORS THEREINTO APPERTAINING

GIVEN AT TUCSON, THIS THIRTY-FIRST DAY OF DECEMBER, 1973

Paul Williams
GOVERNOR OF ARIZONA

James M. Dwyer
PRESIDENT OF THE BOARD



John P. Schuch
PRESIDENT OF THE UNIVERSITY

David L. Windsor
SECRETARY OF THE FACULTY

257232

UNIVERSITY OF ARIZONA

THE ARIZONA BOARD OF REGENTS BY VIRTUE OF THE AUTHORITY VESTED
IN IT BY LAW AND ON RECOMMENDATION OF THE UNIVERSITY FACULTY
DOES HEREBY CONFER UPON

DANIEL JOHN MURPHY, JR.

HAS ADEQUATELY COMPLETED THE STUDIES PRESCRIBED THEREFOR

THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN ALL THE RIGHTS PRIVILEGES AND IMMUNITIES THEREunto APPERTAINING

GIVEN AT TUCSON THE TWENTY-NINTH DAY OF MAY, 1918

James W. Brown *John P. Schuler*
John W. Patton *David C. Wilcox*

527-62-9667

SOCIAL SECURITY NO.

MURPHY, DANIEL JOHN JR 218403
 SURNAME FIRST MIDDLE MATRICULATION NO.
 M 1/27/44; US
 EX BIRTH DATE AMERICAN BORN PLACE CITIZEN OF

DEGREE: MASTER OF SCIENCE

AJOR: NUCLEAR ENGINEERING

REQUIREMENTS COMPLETED: DEC. 21, 1973 DEGREE AWARDED: DEC. 31, 1973

UNDERGRAD. RESIDENCE CUM. AVG.:

DEGREE: Doctor of Philosophy

AJOR: Nuclear Engineering

REQUIREMENTS COMPLETED: March 22, 1978 DEGREE AWARDED: MAY 20, 1978

COURSE TITLE	DEPARTMENT	COURSE NO.	HONORS SECTION	UNITS	GRADE
218403 MURPHY DANIEL JOHN	JOHN	IS 71/72		GRAD	
THERMONUCLEAR THRY1	NU E	292		3*	1
REACTOR THEORY 1	NU E	340		3*	1
ADV ANALY FOR ENGR	MATH	205A		3*	1
ELECTR & MAGNETISM	PHYS	215A		3*	1
RESIDENCE TOTAL				12	
218403 MURPHY DANIEL JOHN	JOHN	II 71/72		GRAD	
NUC REACTOR ENGR	NU E	341		3*	1
REACTOR THEORY II	NU E	342		3*	1
ELECTR & MAGNETISM	PHYS	215B		3*	1
INTRO NUCLEAR PHYS	-NU E	250		3*	1
RESIDENCE TOTAL		12	TOTAL	12	
218403 MURPHY DANIEL JOHN	JOHN	I 72/73		GRAD	
FAST REACTOR TECH	NU E	346		3*	2
ANAL METH TRAN THRY	NU E	381A		3*	9
MGMT RES & DEV ACT	NU E	331		3*	1
MET PROP IND ALLOYS	MET	237		3*	1
IMPERFECT IN METALS	MET	333		3*	1
RESIDENCE TOTAL		12	TOTAL	12	

THE UNIVERSITY OF ARIZONA, TUCSON, ARIZONA 85721

(1.3. 1966)

U.S. Naval Academy: Annapolis, MD

9/7

ADMITTED FROM

GRAD-GRAD

DATE

ADMISSION STANDING AND COLLEGE

HIGH SCHOOL

H.S. GRAD.

ENTRANCE DEFICIENCIES

COURSE TITLE	DEPARTMENT	COURSE NO.	HONORS SECTION	UNITS	GR
218403 MURPHY DANIEL JOHN	JOHN	II 72/73		GRAD	
DYN NUCLEAR SYSTEMS	NU	284		3*	1
NUCLEAR SAFETY	NU	345		3*	
FUEL CYLS NUC REACT	NU	370		3*	
NONDESTR TEST METAL	MET	240		3*	
X RAY DIFFRACTION	MET	332		3*	
RESIDENCE TOTAL		12	TOTAL	12	
218403 MURPHY DANIEL JOHN	JOHN	IS 72/73		GRAD	
THESIS	IS NU E	410		6*	5
RESIDENCE TOTAL		6	TOTAL	6	
218403 MURPHY DANIEL JOHN	JOHN				
FIRST SEM 1973-74			GRADUATE		
ELEC MICRO	MET	271		3*	B
NON-LIN REACT DYNAM	NU E	386		3*	A
DISSRTN	NU E	420		6*	S?
RESIDENCE TOTAL		12	TOTAL	12	

SEE REVERSE SIDE

*GRADUATE CREDIT ALLI... 1.2...

527-62-9667

SOCIAL SECURITY NO.

THE UNIVERSITY OF ARIZONA, TUCSON, ARIZONA 85721

MURPHY, DANIEL JOHN, JR. 218403

NAME FIRST MIDDLE MATRICULATION NO.

COURSE TITLE	DEPARTMENT	COURSE NO.	HONORS SECTION	UNITS	GRADE
218403 MURPHY DANIEL JOHN 2ND SEM 73/74			GRADUATE		527-62-9667
CORROSION	-MET	277		2*	A
DISSRTN	NU E	420		6*	SV
RESIDENCE TOTAL		8	TOTAL	8	
218403 MURPHY DANIEL JOHN 1ST SEM 1974/75			GRADUATE		527-62-9667
DISSRTN	NU E	420		9*	SV
RESIDENCE TOTAL		9	TOTAL	9	
218403 MURPHY DANIEL JOHN 2ND SEM 1974/75			GRADUATE		527-62-9667
EXTN DISSRTN ONLY	NU E	421		0	O
IRNG RDNG SPAN GRAD	SPAN	26		3	W
RESIDENCE TOTAL		0	TOTAL	0.00	
218403 MURPHY DANIEL JOHN 1ST SEM 1975/76			GRADUATE		527-62-9667
EXTN DISSRTN ONLY	NU E	421		0	O
RESIDENCE TOTAL		0	TOTAL	0.00	

*GRADUATE CREDIT ALLOWED IF GRADE IS A, B, C, S, OR P

REMARKS:

COURSE TITLE	DEPARTMENT	COURSE NO.	HONORS SECTION	UNITS	GRADE
218403 MURPHY DANIEL JOHN 2ND SEM, 1975-76			GRADUATE		527-62-9667
EXTN DISSRTN ONLY	NU E	421		0	O
RESIDENCE TOTAL		0	TOTAL	0.00	
218403 MURPHY DANIEL JOHN 1ST SEM 1976-77			GRADUATE		527-62-9667
EXTN DISSRTN ONLY	NU E	421		0	O
RESIDENCE TOTAL		0	TOTAL	0.00	
218403 MURPHY DANIEL JOHN 2ND SEM 1976-77			GRADUATE		527-62-9667
EXTN DISSRTN ONLY	NU E	421		0	O
RESIDENCE TOTAL		0	TOTAL	0.00	
218403 MURPHY DANIEL JOHN 1ST SEM 1977-78			GRADUATE		527-62-9667
ADV NUCL PWR ACTIV	NU E	3965		1*	P
RESIDENCE TOTAL		1	TOTAL	1.00	
218403 MURPHY DANIEL JOHN 2ND SEM 1977-78			GRADUATE		527-62-9667
DEV NUCL PWR	NU E	2965		1*	P
RESIDENCE TOTAL		1	TOTAL	1.00	



MEDICAL DOCTOR ASSOCIATES
3495 Holcomb Bridge Road
Norcross, GA 30092

FAX COVER

DATE: April 11, 1996 4:02 PM
TO: Doug Allen PHONE: 304/526-1143 FAX: 304/526-8945
Radiation Safety Officer
FROM: Bob Paschall PHONE: 800/780-3500 or 770/246-9191
Medical Doctor Assoc. FAX: 770/246-0882 or 800/883-4514
RE: Information for NRC license
CC:

Number of pages including cover sheet: 1

Message

Following this page please find the information on Dr. Dan Murphy to assist in getting him added to your NRC permit with Cobalt use. He was trained in Cobalt and also is Ph.D. in Nuclear Engineering which gives him significant advantage over the normally trained Radiation Oncologist. If there are any other documents you need please let me know.

Bob

BOB PASCHALL

Thanks for the Opportunity to Work with you

800/780-3500 • 770/246-9191 • FAX 770/246-0882

Offices also located in Denver and St. Louis City.

NRC Form 274A
(2-90)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE
SUPPLEMENTARY SHEET

Page	1	of	1	Form
License number	21-16732-01			
Docket or Reference number	030-11715			
Amendment No.	22			

Northern Michigan Hospitals
416 Connable Avenue
Potoskey, MI 49770

In accordance with letter dated January 14, 1991, License Number 21-16732-01 is amended as follows:

Item 6.D. Any byproduct material
identified in 10 CFR
35.400

7.D. Any brachytherapy source
identified in 10 CFR
35.400

8.D. 7.0 curies

Conditions 12. and 14. are amended as follows:

12. Authorized Users:

- A. Victor M. Tsaloft, M.D., for material in 10 CFR 35.100, 35.200 and 35.300.
- B. Michael T. Sunday, M.D., for material in 10 CFR 35.100, 35.200 and 35.300.
- C. Joseph Ming-tan Wang, M.D., for material in 10 CFR 35.400.
- D. Daniel Dryden, for Cesium-137 instrument or operator.
- E. Ronald Petrocelli, M.D., for material in 10 CFR 35.100, 35.200 and 35.300.
- F. Daniel J. Murphy, Jr., M.D., for material in 10 CFR 35.400.

Condition 14. is added:

14. This license is based on the licensee's statement and representations listed below:

- A. Application dated March 28, 1988: ★ ★ ★ ★
- B. Letter dated April 18, 1991.

For the U.S. Nuclear Regulatory Commission

Date: May 7, 1991

By [Signature]
Materials Licensing Section, Region III

COPY

5

RADIOACTIVE MATERIALS SECTION
DIVISION OF RADIATION PROTECTION
N.C. DEPARTMENT OF ENVIRONMENT, HEALTH,
AND NATURAL RESOURCES
ACCELERATOR LICENSE

Page 2 of 2 Pages

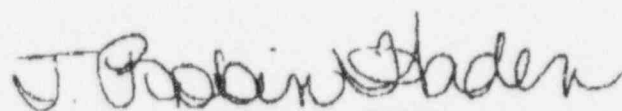
License No. 026-0173-A

Supplementary Sheet

Conditions (continued):

14. A) 11) that quantities of radiation in unrestricted areas do not exceed the limits specified in 15A NCAC 11 .1611.
- B) Tests shall be made to determine proper operation of the electrical interlocks on entrance doors to the treatment room.
- C) Any changes made in treatment room shielding, location, or use of the Accelerator which could result in an increase in radiation levels in unrestricted areas outside the treatment room and made subsequent to the completion of the initial radiation survey shall be re-evaluated by a radiation survey.
- D) A report of the results of the above surveys and tests shall be sent to the Radioactive Materials Section, Division of Radiation Protection, Department of Environment, Health, and Natural Resources, P.O. Box 27687, Raleigh, NC 27611-7687.
15. For a period not to exceed 60 sixty (60) days in any calendar year, a visiting physician is authorized to use the accelerator under the terms of this license provided the physician:
- A) Has prior written permission of the hospital administrator and its Radiation Safety Committee, and
- B) Is specifically named as a user on a N.C. Dept. of Environment, Health, and Natural Resources license authorizing use, and
- C) Performs only those procedures which he is specifically authorized by a N.C. Dept. of Environment, Health, and Natural Resources license.
16. Except as specifically provided otherwise by this license, the licensee shall possess and use the accelerator described in Items 6, 7, and 8 of this license in accordance with statements, representations and procedures contained in:
- A. Application with attachments dated April 5, 1994 signed by John R. Ashburn, Ph.D., R.E.O. and Micheal Jansen, Senior Associate Administrator.
- B. Letter dated June 2, 1994 and signed by John R. Ashburn, Medical Physicist.
- C. Letter with attachments dated July 7, 1995, signed by John Ashburn, PhD, RSO.

Date of Issuance: July 21, 1995


For: David H. Brown
Director, Division of Radiation Protection
BH

RADIOACTIVE MATERIALS SECTION
DIVISION OF RADIATION PROTECTION
N.C. DEPARTMENT OF ENVIRONMENT, HEALTH,
AND NATURAL RESOURCES
ACCELERATOR LICENSE

Page 1 of 2 Pages

Pursuant to North Carolina Regulations for Protection Against Radiation and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import radioactive materials listed below; and use such radioactive material for the purpose(s) and at the place(s) designated below. This License is subject to all applicable rules and regulations of the North Carolina Department of Environment, Health, and Natural Resources now or hereafter in effect and to any conditions specified below.

Licensee

1. Name: Cape Fear Valley Medical Center
Radiation Oncology Department

2. Address: P.O. Box 2000
Payetteville, NC 28302-2000

3. License No.: 026-0173-A

4. Expiration Date: March 31, 1999

5. Amendment No. 11

6. Manufacturer and Type of Unit(s)	7. Effective Energy	8. Number of Units and Maximum Output of Each Unit
A. Siemens Linear Accelerator Model MD	A. 6 MeV/15 MeV Photons; 14 MeV Electrons	A. 1 - MAX Output 300 Rad/Min @ 100 cm.
B. Siemens Linear Accelerator Model MD-2	B. 6 MeV/15 MeV Photons; 14 MeV Electrons	B. 1 - MAX Output 300 Rad/Min @ 100 cm.

9. Authorized Use:

A. and B. To be used for the treatment of cancer in humans. May also be used for the irradiation of blood and blood products.

CONDITIONS

10. The accelerator may only be used at the Cape Fear Valley Medical Center Radiation Oncology Department, 1638 Owen Drive, Fayetteville, N.C.
11. The licensee shall comply with the provisions of 15A NCAC 11 .1600, "Standards for Protection Against Radiation," 15A NCAC 11 .0900, "Requirements for Particle Accelerators," and 15A NCAC 11 .1000, "Notices, Instructions, Reports and Inspections." (The North Carolina Regulations for Protection Against Radiation are contained in 15A NCAC 11.)
- 12A. The Accelerator shall be used by John Hugh Bryan, M.D., Daniel John Murphy, JR, M.D. and R. Jeffrey Lee, M.D.
- B. The Radiation Safety Officer shall be John R. Ashburn, Ph.D.
- C. The Accelerator may be used for the sole purpose of blood irradiation by Gene White.
- D. Health Physics services shall be provided by John R. Ashburn, Ph.D.
13. The licensee is authorized to possess, use and transfer the Uranium contained as shielding material in the accelerator unit authorized by this license.
14. Prior to initiation of a program, radiation surveys and tests shall be performed in accordance with the following:
 - A) A radiation survey shall be made of:

All areas adjacent to the room with the accelerator in operation. The survey shall be performed with a phantom in the primary beam of radiation and shall clearly establish:

 - 1) that radiation levels in restricted areas are not likely to cause personnel exposure in excess of the limits specified in 15A NCAC 11 .1604; and



CROSS CANCER INSTITUTE
NORTHERN ALBERTA CANCER PROGRAM

January 16, 1996

TO WHOM IT MAY CONCERN:

This is to confirm that Dr. Daniel Murphy did his final year of residency training in 1987/87 at the Cross Cancer Institute in Edmonton. During that year, Dr. Murphy was required to gain experience in treating patients on our Cobalt 60 unit. He gained experience in treating a number of patients with head and neck malignancy and a wide variety of different palliative situations. If I can provide any further information on this issue, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read "R. Pearcey".

R.G. Pearcey, MA, MB, FRCR, FRCPC
Director, Radiation Oncology

/sl

257232

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,
and the Association of University Radiologists

Hereby certifies that

Daniel John Murphy, Jr., Ph.D., 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 eighth day of June, 1989

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

Radiation Oncology

Robert G. Parker
President

Samuel H. L. Hollander, Jr.
Secretary

The University of Arizona

College of Medicine
University Medical Center and Affiliated Hospitals
Tucson, Arizona

Certify that

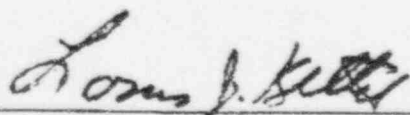
Daniel J. Murphy, Jr., M.D.

has performed the academic and clinical responsibilities of the

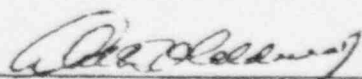
Clinical Assistant II and III
Radiation-Oncology Residency Program
Department of Radiology

From July 1, 1985

To June 30, 1987

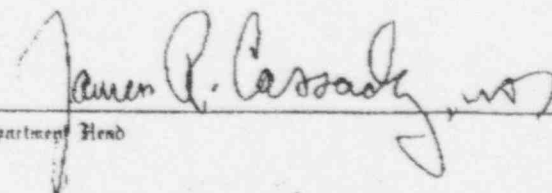


Dean, College of Medicine



Chief Executive Officer, University Medical Center





Department Head

Program Director

University of Alberta



Faculty of Medicine

Postgraduate Medical Education

hereby certifies that

DANIEL JOHN MURPHY JR.

has satisfactorily performed the duties of
Resident III

Division of Radiation Oncology

from the 1st day of July 19 87 to the 30th day of June 19 88

A handwritten signature in cursive script, appearing to read "B. Wille".

Program Director

A handwritten signature in cursive script, appearing to read "J. G. G. G.". The signature is written in a stylized, flowing manner.

Director,
Postgraduate Medical Education

The University of New Mexico

has conferred upon

Daniel John Murphy, Jr.

the degree of

Doctor of Medicine

with all the rights and privileges appertaining to that degree,
in testimony whereof the Regents of the University upon recommendation
of the Faculty have granted this diploma bearing the seal of the University
this thirteenth day of May, nineteen hundred and eighty-four.

Frank J. ...
President of the Regents

John D. ...
Secretary of the Regents



Julius Perovich
President of the University

Anne Brown
Secretary of the University

Leonard Neapolitano

257232

CURRICULUM VITAE

Name: Daniel John Murphy, Jr., Ph.D., M.D.

Permanent Address: 13500 Coronado Fwy SW, #60
Albuquerque, NM 87121
(505) 833-1441 (home)
(800) 219-0390 (voice mail/pager)

Date & Place of Birth: January 27, 1944; Austin, Texas

Education:

1966	B.S.	Mathematics and Engineering, U.S. Naval Academy, Annapolis, Maryland
1973	M.S.	Nuclear Engineering, University of Arizona, Tucson, Arizona
1978	Ph.D.	Nuclear Engineering (Minor: Physical Metallurgy), University of Arizona, Tucson, Arizona
1984	M.D.	University of New Mexico, Albuquerque, New Mexico

Experience:

1992-Present	Locum Tenens Radiation Oncologist. Provided radiation oncology services on a temporary basis in work assignments ranging in length from one week to five months. Practiced in a wide variety of settings including academic University, Veterans Administration Medical Center, community hospital-based practice, and freestanding radiation therapy center practice.
1991-1992	Medical Director, Department of Radiation Oncology, The United Hospital, Inc. Grand Forks, North Dakota. Reorganized the clinical structure and improved the clinical and technical performance of Department operations. Dramatically improved communications and contact with referring physicians, enhancing the image of radiation oncology services and improving the hospital's market share within the referral region, raising census from 25 to 40 patients per day. Worked with the Medical Staff to better integrate radiation therapy as a treatment modality into the overall cancer management process. Modified hospital billing procedures, improving revenue by 30% while solidifying an audit trail. Drafted and implemented a physician-directed Quality Improvement Plan following JCAHO guidelines. Reorganized Department Patient Care Conferences, improving staff education and initiating a process for peer review and morbidity and mortality evaluation. Initiated revision of Department Policies and Procedures. Initiated the development of Critical Pathways for cancer patient care. Participated with Hospital Administration on marketing strategies and activities, budgetary matters, acquisition of a second linear accelerator, and renovation of Department physical plant to improve patient throughput. Integrated efforts with Department of Radiology to identify and recruit a full time Hospital medical physicist. Member, North Central Cancer Treatment Group.
1990-1991	Medical Director, Northern Michigan Regional Cancer Center and Medical Director, Department of Radiation Oncology, Northern Michigan Hospital, Inc., Petoskey, Michigan. Completely reorganized Radiation Oncology Department's administrative and billing procedures (increasing Hospital revenue by 38% in first quarter); established Standards of Care for radiation oncology; established and implemented an integrated Quality Improvement Plan, following the JCAHO ten step process; initiated a peer review process for radiation oncology; established relationships with Michigan's academic institutions to promote both in- and out-referrals of patients having specialized needs; joined Children's Cancer Study Group and affiliated with Michigan State University Division of Pediatric Oncology to initiate and formalize pediatric radiation oncology for patients in northern Michigan; and promoted the concept of co-managed care of cancer patients.

- 1988-1990 Radiation Oncologist, St. Joseph's Hospital, Milwaukee, Wisconsin. With one partner, created startup radiation oncology practice in hospital-based environment in January 1989. Initiated modern radiation therapy techniques including new brachytherapy programs (interstitial iridium implantation for prostate and GYN tumors and intraluminal applications for bronchial and esophageal malignancies). Worked closely with all staff Medical Oncologists, employing innovative combined/concurrent chemo-radiotherapy approaches to cancer management. Clinical Investigator associated with Eastern Cooperative Oncology Group.
- 1986 Emergency Room Physician, R.W. Bliss Army Hospital, Fort Huachuca Army Post, Sierra Vista, Arizona (Part time Locum Tenens, 200 hours).
- 1980-1984 Medical Student, University of New Mexico School of Medicine.
- Summer '81 Administrative Aide, Data Processing Department, Presbyterian Hospital, Albuquerque, New Mexico. Assisted in creating design specifications for automating inpatient data collection (from a manual to a computerized database).
- 1977-1980 Member of the Technical Staff, Sandia National Laboratories, Albuquerque, New Mexico. Principal investigator, project manager, and co-investigator of several light water nuclear reactor safety related programs and design studies (budgets \$100-300K).
- 1971-1977 Graduate Associate in Research and Teaching, Department of Nuclear Engineering, University of Arizona, Tucson, Arizona. Conducted independent research in nuclear waste management options. Assisted in developing experiments in neutron activation analysis, gamma ray spectroscopy, and neutron radiography. Reorganized and conducted the University's nuclear reactor operator training program, enhancing the number of qualified reactor operators. Instructed graduate and undergraduate students in nuclear reactor physics laboratory techniques.
- Summer '72, '73 Summer Research Assistant, Los Alamos Scientific Laboratory, Los Alamos, New Mexico. Assisted experimenters in non-destructive assay of nuclear materials. Designed computerized modeling techniques to evaluate the thermal performance of a Subterrene Penetrator (a device that forms holes in rock by melting).

Military Experience; Commissioned Officer, U.S. Navy:

- 1966-1971 **Active Duty:** Qualified in submarines and in operation, supervision, and maintenance of naval nuclear propulsion plants. Responsible for the electrical and reactor control divisions of a Polaris submarine and supervised approximately 20 associated personnel. Instructed officer students in nuclear reactor theory and in integrated nuclear propulsion plant operation.
- 1971-1986 **Reserve Duty:** Served as Training Officer and Commanding Officer of Naval Reserve technical units.

Post Graduate Medical Education:

- 1987-1988 Resident, Department of Radiation Oncology, W.W. Cross Cancer Institute, Edmonton, Alberta, Canada. Trained in LINAC, cobalt, electrons, and orthovoltage teletherapy, in remote afterloading brachytherapy, and in pediatric oncology. Provided instruction to medical students, house officers, and to student technologists.
- 1985-1987 Resident, Department of Radiation Oncology, Arizona Health Sciences Center, University of Arizona, Tucson, Arizona. Trained in LINAC teletherapy, brachytherapy, and superficial and deep heating hyperthermia techniques.

257232

1984-1985 Intern, Transitional Program, Tucson Hospitals Medical Education Program, Inc., Tucson, Arizona.

Licenses and Qualifications:

1985	Arizona License	#15581	August 9, 1985
1988	Wisconsin License	#29219	April 22, 1988 (Inactive)
1990	North Carolina License	#39047	May 19, 1990
1990	Michigan License	#057244	November 14, 1990
1991	North Dakota License	#6251	November 22, 1991 (Inactive)
1992	Florida License	#ME0061611	April 8, 1992
1992	Iowa License	#28695	June 22, 1992
1993	Texas License	#J3559	June 15, 1993
1994	Arkansas License	#E-0212	September 9, 1994

1985 Diplomate, National Board of Medical Examiners, #292904, July 1, 1985

1987 Board Certified, Radiation Oncology, American Board of Radiology, June 8, 1989

Professional Society Presentations & Activities:

1. D. J. Murphy, Jr., W. M. Farr, and B. D. Ganapol, "Performance Calculations of Fast Reactor Actinide Recycle as a Waste Management Alternative," Presented at the American Nuclear Society summer meeting, New York City, June, 1977.
2. D. J. Murphy, Jr. and L. L. Doss, "Methods for Comparing Therapeutic Performances of Planar Iridium Implants," Presented at the American Endocurietherapy Society annual midwinter meeting, Key Biscayne, Florida, December, 1982.
3. D. J. Murphy, Jr., Arthur T. Porter, and Malcomb McPhee, "The Natural History of Renal Cell Adenocarcinoma Following Initial Treatment: a Population Based Study of 565 Patients," (accepted for inclusion in the American Radium Society Annual Meeting, Seattle, April 1988).
4. Reviewed articles (physics) submitted for publication, International Journal of Radiation Oncology, Biology, and Physics, 1984-1986.

Medical Teaching:

- 4/87 "Radiation Oncology for Lung and Breast Cancer," presented to the Arizona Medical Record Association Workshop on Oncology Coding
- 1987 Resident Mentor for Freshman Medical Student, University of Arizona School of Medicine
- 9/88 Panel Member, "Treatment Options for Breast Cancer," St. Joseph's Hospital Public Forum, "After Breast Cancer"
- 11/88 "What's New in Radiation Therapy," presented to the St. Joseph's Hospital Department of Internal Medicine
- 11/88 "The Role of Radiation Therapy in the Management of Breast Cancer," presented at Grand Rounds, St. Joseph's Hospital, Milwaukee

- 88-89 Instructor, Radiation Technologist School, St. Joseph's Hospital, Milwaukee. Principles of Radiation Therapy, an Introduction," "Leukemias," "Treatment of Gynecologic Malignancies" (a six hour series), "Soft Tissue Sarcomas," "Testicular Tumors."
- 88-90 Clinical instructor, principles of radiation therapy, for medical students and housestaff, St. Joseph's Hospital, Milwaukee.
- 12/89 Conducted in service training for hospital Nursing staff, "Transperineal implantation for prostate and GYN malignancies: rationale, techniques, and principles of nursing care."
- 12/89 Conducted in service training for Radiation Oncology Department staff, "Acute and late tissue reactions from radiation therapy--new radiobiological principles."
- 1993 Clinical instruction to radiation oncology residents, University of Texas Medical Branch, Galveston, Texas, November--December 1993.

Professional Outreach Activities:

- 1988 Instituted a Radiation Oncology Clinic at St. Joseph's Hospital, West Bend, Wisconsin. Integrated this clinic with an existing Medical Oncology clinic, producing greater coordination in overall patient oncologic care.
- 1989 Participant in a radio "talk-and-telephone" program, "Experts on Call," radio station WBKV, West Bend, Wisconsin.
- 1991 Outreach, with Northern Michigan Hospital Chaplain, to local community cancer patient support groups.
- 1991 Speaker at Medical Staff CME meetings at referring hospitals in northern Michigan.
- 1991 Speaker, "The Role of Radiation Therapy in the Integrated Management of Cancer," Nursing Care for the 90's, Northern Michigan Hospital.

Publications:

1. D. J. Murphy, Jr. and R. G. Gido, "Heat Loss Calculations for Small Diameter Penetrators," Los Alamos Scientific Laboratory Report LA-5207-MS, February 1973.
2. D. J. Murphy, Jr., "Heat Loss Calculations for Small Subterranean Penetrators," University of Arizona, 1973 (M.S. Thesis).
3. D. J. Murphy, Jr., W. M. Farr, and B. D. Ganapol, "Performance Calculations of Fast Reactor Actinide Recycle as a Waste Management Alternative," Trans. Am. Nucl. Soc. 26, 294-295, 1977.
4. D. J. Murphy, Jr. "Performance Considerations of Nuclear Reactor Actinide Recycle as a Waste Management Alternative," University of Arizona, 1978 (Ph.D. Dissertation).
5. W. M. Farr and D. J. Murphy, Jr., "Actinide Burner Studies," University of Arizona Engineering Research Station Report, July 1978.
6. D. J. Murphy, Jr., W. M. Farr, and B. D. Ganapol, "Power Production and Actinide Elimination by Fast Reactor Recycle," Nuc. Tech. 45, 299-306, 1979.

7. D. J. Murphy, Jr., N. L. Brisbin, D. M. Ericson, Jr., R. D. Campbell, and W. R. Cramond, "Independent Verification Options for Inspecting Nuclear Power Plant Facilities," U. S. Nuclear Regulatory Commission Report NUREG/CR-0826, September 1979.
8. G. J. Lynch, N. L. Brisbin, G. M. Bradley, and D. J. Murphy, Jr., "Allocation of NRC Inspection Effort to Risk-Related Activities in Nuclear Power Plants," U. S. Nuclear Regulatory Commission Report NUREG/CR-1338, April 1980.
9. D. J. Murphy, Jr. and L. L. Doss, "Small Computer Algorithms for Comparing Therapeutic Performances of Single-Plane Iridium Implants," Med. Phys. 11(2):193-6, 1984.
10. D. J. Murphy, Jr., N. Memula, and L. L. Doss, "An Iridium-192 Nomogram System for Single Plane Implants," Intl. J. Rad. Onc. Biol. Phys., 12:267-70.
11. D. J. Murphy, Jr. and A. T. Porter, "Prostate Localization for the Treatment Planning of Prostate Cancer: a Comparison of Two Techniques," Med. Dosimetry 13:11-12, 1988.
12. D. J. Murphy, Jr., and A. T. Porter, "Acute Cranial Nerve Dysfunction in Patients with Metastatic Prostate Adenocarcinoma, a Report of Twelve Cases," (submitted to American Journal of Clinical Oncology).

Personal:

Married 5' 10", 180 lbs. Excellent health. Enjoy sports, particularly downhill skiing, hiking, camping, hunting, target shooting, running, tennis, golf, and power boating; amateur radio; and auto mechanics.

References:

Will be furnished on request.