

## MATERIALS LICENSE

Amendment No. 07

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 September 8, 1996,                         |
| 1. The Heart Center  |  | 3. License Number 20-28429-01 is amended in its entirety to read as follows:   |
| 2. 52 Park Street<br>Hyannis, MA 02601   |  | 4. Expiration Date July 31, 2005   |
|  |  | 5. Docket or Reference No. 030-31291   |
| 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 cardiac uptake, dilution and excretion procedure approved in 10 CFR 35.100. |  |  |
| B. Any cardiac imaging and localization procedure approved in 10 CFR 35.200.       |  |  |

## CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 52 Park Street, Hyannis, Massachusetts.
11. The Radiation Safety Officer for this license is Philip N. Chiotellis, M.D.
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:
- | Authorized Users           | Material and Use   |
|----------------------------|--|
| Philip N. Chiotellis, M.D. | 35.100 for cardiovascular clinical procedures<br>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.

ML 10 9/

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

20-28429-01

Docket or Reference Number

030-31291

Amendment No. 07

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."
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 November 14, 1994
  - B. Letter dated June 15, 1995
  - C. Letter dated May 10, 1996
  - D. Letter dated September 8, 1996



Date OCT 23 1996

For the U.S. Nuclear Regulatory Commission  
Original Signed By:  
John D. Kinneman

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

OCT 23 1996

Philip N. Chiotellis, M.D.  
President  
The Heart Center  
52 Park Street  
Hyannis, MA 02601

Dear Dr. Chiotellis:

This refers to your license amendment request dated September 8, 1996. Enclosed with this letter is the amended license.

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

Thank you for your cooperation.

Sincerely,

Original Signed By:  
John D. Kinneman

John D. Kinneman, Chief  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety

License No. 20-28429-01  
Docket No. 030-31291  
Control No. 123747

Enclosure:  
Amendment No. 07

DOCUMENT NAME: R:\WPS\MLTR\L2028429.01

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

|        |          |                                       |           |                                       |         |  |         |
|--------|----------|---------------------------------------|-----------|---------------------------------------|---------|--|---------|
| OFFICE | DNMS/RI  | <input checked="" type="checkbox"/> N | DNMS/RI   | <input checked="" type="checkbox"/> M |         |  |         |
| NAME   | SLodhi   |                                       | JKinneman |                                       |         |  |         |
| DATE   | 10/22/96 |                                       | 10/22/96  |                                       | 10/ /96 |  | 10/ /96 |

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**ML 10**

HEART CENTER  
52 PARK STREET  
HYANNIS, MASSACHUSETTS 02601  
TELEPHONE (508) 771-4205  
FAX (508) 771-7870

PHILIP N. CHIOTELLIS, M.D., F.A.C.C.  
MICHAEL A. MECLEY, M.D., F.A.C.C.  
EDWARD J. PERPER, M.D., F.A.C.C.  
BOARD CERTIFIED CARDIOLOGISTS



September 8, 1996

Licensing Assistance Section  
Nuclear Materials Safety Branch  
Division of Radiation Safety & Safeguards  
U.S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

RE: Close-Out Survey - Nuclear Medicine Department  
License Number: 20-28429-01

Dear License Reviewer:

On May 10, 1996, an amendment was forwarded to NRC Region I offices, requesting the relocation of the nuclear medicine department to an alternate site within this facility. Please refer to the facility diagram for specific details.

Upon vacating the old nuclear medicine department, a close-out survey was completed. The results of this analysis are enclosed within Attachment A. All data results confirm that ambient exposure measurements were equivocal to background readings. In addition, all removable contamination samples were found to be below 200 dpm/100 cm<sup>2</sup>.

Dr. Chiotellis, the Radiation Safety Officer, has verified his inspection and approval of survey results by affixing his signature to the bottom of the page.

All sealed source and radioactive waste material have been transferred to the new hot lab.

Following the RSO's review, this area has been released for unrestricted use. The results of the close-out survey will remain on file for future evaluation.

If you have additional questions, please contact Michael W. Lairmore or myself. Mr. Lairmore may be reached at (201) 447-3303.

We thank you for your assistance with this licensing matter.

Sincerely,

Philip N. Chiotellis, M.D., RSO  
President/Heart Center

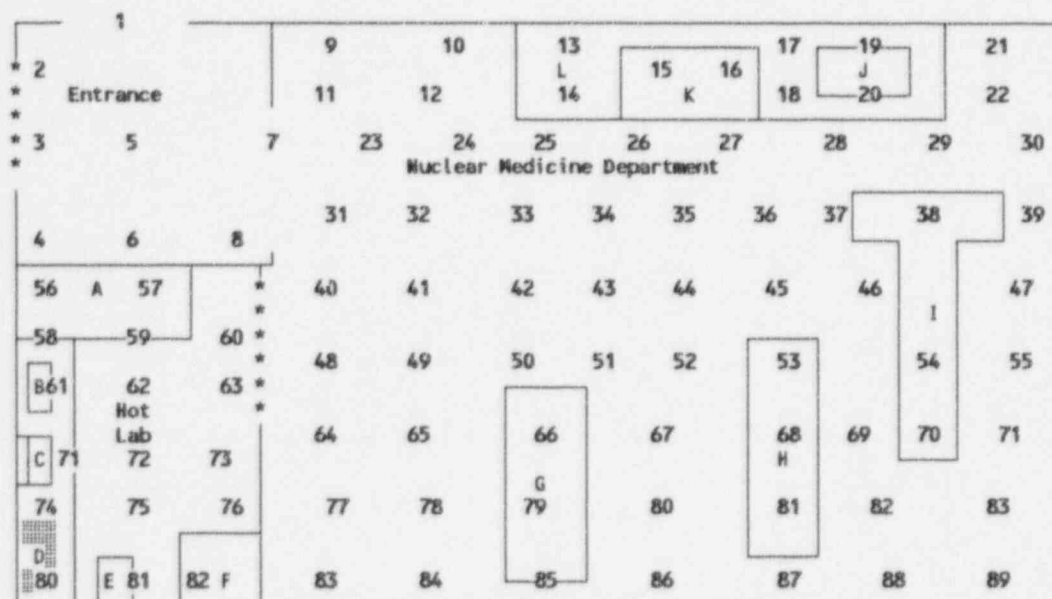
123747  
Continuation of 123290

SEP 30 1996

**Attachment A**

The Heart Center  
52 Park Street  
Hyannis, MA 02601

Close-Out Survey - Nuclear Medicine



The Heart Center  
52 Park Street  
Hyannis, MA 02601

| AREA | EXPOSURE READING<br>(mR/hr) | BACKGROUND<br>(mR/hr) | WIPE READING<br>(Net DPM) | SURVEY METER | SURVEYOR |
|------|-----------------------------|-----------------------|---------------------------|--------------|----------|
| 1    | 0.03                        | 0.03                  | 6.47                      | 1            | MWL      |
| 2    | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 3    | 0.03                        | 0.03                  | 11.61                     | 1            | MWL      |
| 4    | 0.03                        | 0.03                  | 5.16                      | 1            | MWL      |
| 5    | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 6    | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 7    | 0.03                        | 0.03                  | 10.32                     | 1            | MWL      |
| 8    | 0.03                        | 0.03                  | 14.19                     | 1            | MWL      |
| 9    | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 10   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 11   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 12   | 0.03                        | 0.03                  | 7.74                      | 1            | MWL      |
| 13   | 0.03                        | 0.03                  | 3.87                      | 1            | MWL      |
| 14   | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 15   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 16   | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 17   | 0.03                        | 0.03                  | 11.61                     | 1            | MWL      |
| 18   | 0.03                        | 0.03                  | 6.45                      | 1            | MWL      |
| 19   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 20   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 21   | 0.03                        | 0.03                  | 9.03                      | 1            | MWL      |
| 22   | 0.03                        | 0.03                  | 12.9                      | 1            | MWL      |
| 23   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 24   | 0.03                        | 0.03                  | 10.32                     | 1            | MWL      |
| 25   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |

- Survey Meter = Ludlum Model #3, S/N 71768 (Calibration Date: 3/1/96)
- Canberra Series 20 (Multi-Channel Analyzer) used for Removable Contamination Testing
- Cobalt-57 Efficiency = 77.6%, C.F. = 1.29
- Background reading from Canberra Multi-Channel Analyzer = 176 cpm
- Net DPM = Gross CPM - BKG = Net CPM x C.F. = Net DPM
- CPM = Counts Per Minutes  
BKG = Background  
C.F. = Correction Factor
- Action Trigger Levels:  
Ambient exposure readings not to exceed background = 0.03 mR/hr  
Removable Contamination readings not to exceed 200 dpm/100 cm<sup>2</sup>
- Survey Analysis completed by Michael W. Lairmore, Medical Physics Consultant
- All sealed sources and radioactive waste (held in decay-in-storage), relocated to new hot lab.



The Heart Center  
52 Park Street  
Hyannis, MA 02601

| AREA | EXPOSURE READING<br>(mR/hr) | BACKGROUND<br>(mR/hr) | WIPE READING<br>(Net DPM) | SURVEY METER | SURVEYOR |
|------|-----------------------------|-----------------------|---------------------------|--------------|----------|
| 26   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 27   | 0.03                        | 0.03                  | 19.35                     | 1            | MWL      |
| 28   | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 29   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 30   | 0.03                        | 0.03                  | 9.03                      | 1            | MWL      |
| 31   | 0.03                        | 0.03                  | 16.77                     | 1            | MWL      |
| 32   | 0.03                        | 0.03                  | 6.45                      | 1            | MWL      |
| 33   | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 34   | 0.03                        | 0.03                  | 11.61                     | 1            | MWL      |
| 35   | 0.03                        | 0.03                  | 7.74                      | 1            | MWL      |
| 36   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 37   | 0.03                        | 0.03                  | 5.16                      | 1            | MWL      |
| 38   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 39   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 40   | 0.03                        | 0.03                  | 14.19                     | 1            | MWL      |
| 41   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 42   | 0.03                        | 0.03                  | 5.16                      | 1            | MWL      |
| 43   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 44   | 0.03                        | 0.03                  | 7.74                      | 1            | MWL      |
| 45   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 46   | 0.03                        | 0.03                  | 12.9                      | 1            | MWL      |
| 47   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 48   | 0.03                        | 0.03                  | 20.64                     | 1            | MWL      |
| 49   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 50   | 0.03                        | 0.03                  | 5.16                      | 1            | MWL      |

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- CPM = Counts Per Minutes  
BKG = Background  
C.F. = Correction Factor
- Action Trigger Levels:  
Ambient exposure readings not to exceed background = 0.03 mR/hr  
Removable Contamination readings not to exceed 200 dpm/100 cm<sup>2</sup>
- Survey Analysis completed by Michael W. Lairmore, Medical Physics Consultant
- All sealed sources and radioactive waste (held in decay-in-storage), relocated to new hot lab.



The Heart Center  
52 Park Street  
Hyannis, MA 02601

| AREA | EXPOSURE READING<br>(mR/hr) | BACKGROUND<br>(mR/hr) | WIPE READING<br>(Net DPM) | SURVEY METER | SURVEYOR |
|------|-----------------------------|-----------------------|---------------------------|--------------|----------|
| 51   | 0.03                        | 0.03                  | 18.06                     | 1            | MWL      |
| 52   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 53   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 54   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 55   | 0.03                        | 0.03                  | 10.32                     | 1            | MWL      |
| 56   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 57   | 0.03                        | 0.03                  | 28.38                     | 1            | MWL      |
| 58   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 59   | 0.03                        | 0.03                  | 3.87                      | 1            | MWL      |
| 60   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 61   | 0.03                        | 0.03                  | 6.45                      | 1            | MWL      |
| 62   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 63   | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 64   | 0.03                        | 0.03                  | 11.61                     | 1            | MWL      |
| 65   | 0.03                        | 0.03                  | 9.03                      | 1            | MWL      |
| 66   | 0.03                        | 0.03                  | 20.64                     | 1            | MWL      |
| 67   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 68   | 0.03                        | 0.03                  | 21.93                     | 1            | MWL      |
| 69   | 0.03                        | 0.03                  | 5.16                      | 1            | MWL      |
| 70   | 0.03                        | 0.03                  | 15.48                     | 1            | MWL      |
| 71   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 72   | 0.03                        | 0.03                  | 24.51                     | 1            | MWL      |
| 73   | 0.03                        | 0.03                  | 1.29                      | 1            | MWL      |
| 74   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 75   | 0.03                        | 0.03                  | 9.03                      | 1            | MWL      |

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The Heart Center  
52 Park Street  
Hyannis, MA 02601

| AREA | EXPOSURE READING<br>(mR/hr) | BACKGROUND<br>(mR/hr) | WIPE READING<br>(Net DPM) | SURVEY METER | SURVEYOR |
|------|-----------------------------|-----------------------|---------------------------|--------------|----------|
| 76   | 0.03                        | 0.03                  | 7.74                      | 1            | MWL      |
| 77   | 0.03                        | 0.03                  | 2.58                      | 1            | MWL      |
| 78   | 0.03                        | 0.03                  | 14.19                     | 1            | MWL      |
| 79   | 0.03                        | 0.03                  | 23.22                     | 1            | MWL      |
| 80   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 81   | 0.03                        | 0.03                  | 9.03                      | 1            | MWL      |
| 82   | 0.03                        | 0.03                  | 5.16                      | 1            | MWL      |
| 83   | 0.03                        | 0.03                  | 11.61                     | 1            | MWL      |
| 84   | 0.03                        | 0.03                  | 11.61                     | 1            | MWL      |
| 85   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 86   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |
| 87   | 0.03                        | 0.03                  | 10.32                     | 1            | MWL      |
| 88   | 0.03                        | 0.03                  | 15.48                     | 1            | MWL      |
| 89   | 0.03                        | 0.03                  | 0                         | 1            | MWL      |

- Survey Meter = Ludlum Model #3, S/N 71768 (Calibration Date: 3/1/96)
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LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

```

: PROGRAM CODE: 02200
: STATUS CODE: 0
: FEE CATEGORY: 7C
: EXP. DATE: 20050731
: FEE COMMENTS: -----
: DECOM FIN ASSUR REQD: N

```

## A. REGION

1. APPLICATION ATTACHED  
Applicant/Licensee: HEART CENTER (THE)  
RECEIVED DATE: 960930  
DOCKET NO: 3031291  
CONTROL NO.: 123747  
LICENSE NO.: 20-28429-01  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED  
AMOUNT: - - - / - - - -  
CHECK NO.: - - - / - - - -

3. COMMENTS  
close-out Survey  
of 123290

SIGNED  
DATE

Rebecca J. Brown  
10/2/96

8. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILITARY SERVICE REQUIRED)
- ☒
- (1)

1. FEE CATEGORY AND AMOUNT: 7C Months of 123498

2. CORRECT FEE PAID\* APPLICATION MAY BE PROCESSED FOR:  
AMENDMENT -----  
RENEWAL -----  
LICENSE -----

3. OTHER \_\_\_\_\_

SIGNED  
DATE

RECEIVED BY LFCS  
Date 10/2/96  
Oct 2 1996  
by BA  
Date Completed 10/2/96