

**Delaware Cardiology, LLC  
Stoney Batter II Building, Suite 204  
5311 Limestone Road  
Wilmington, DE 19808  
(302) 475-9626**

September 27, 2012

Licensing Assistance Section  
Nuclear Regulatory Commission, Region I  
2100 Renaissance Boulevard, Suite 100  
Radioactive Material Program  
King of Prussia, PA 19406-2713

*Br. 1*

REC RG 1 04 05 13 AM 07/12

RE: Delaware Cardiology, LLC - Amendment Request  
2101 Foulk Road  
Wilmington, DE 19819  
Close-Out Survey  
License Number: 07-30527-01 *030-35166*

Dear License Reviewer:

Please delete the following "Location of Use" from our radioactive material license. We are terminating nuclear cardiology operations at this facility.

**Delaware Cardiology, LLC  
2101 Foulk Road  
Wilmington, DE 19819**

On September 27, 2012, a Close-Out Survey was completed of the nuclear cardiology department. Results of this examination confirmed that ambient exposure measurements were documented at 0.03 mR/hr. In addition, removable contamination swipes were measured below 200 dpm/300 cm<sup>2</sup>. Results of the "Close-Out Survey" have been enclosed within Attachment A of this submission. Please refer to this section for details.

Nuclear cardiology operations have not been performed at this imaging center since December 2011. Only Tc-99m has been used at this imaging center for diagnostic testing. Radioactive waste generated at this imaging center was allowed to decay in excess of ten half-lives.

*580383*

**NMSS/RGNI MATERIALS-002**

At the time of disposal, the waste containers were surveyed for ambient exposure contamination. Results were verified at background radiation readings of 0.03 mR/hr. Subsequently, the non-radioactive containers were disposed as regulated medical waste.

The sealed sources used for instrument calibration have been transferred to our imaging center located at the address listed below:

**Delaware Cardiology, LLC  
Stoney Batter II Building, Suite 204  
5311 Limestone Road  
Wilmington, DE 19808**

Upon receipt at 5311 Limestone Avenue, Wilmington, DE, the sources were inventoried and leak tested for removable contamination. The updated Sealed Source Inventory and Leak Test Analysis have been enclosed within Attachment B. Please refer to this section of our submission for details.

In addition, we request our administrative mailing address be changed as follows:

**Delaware Cardiology, LLC  
Stoney Batter II Building, Suite 204  
5311 Limestone Road  
Wilmington, DE 19808**

If you require additional information, please contact Michael W. Lairmore, M.S., or myself. Mr. Lairmore may be reached at (201) 693-2277.

We thank you in advance for your assistance with this pending licensing action.

Sincerely,



George Davis, M.D.  
Radiation Safety Officer/Administrative Representative  
Delaware Cardiology, LLC

**Attachment A**  
**“Close-Out Survey”**

**Close-Out Survey Results  
Delaware Cardiology, LLC  
2101 Foulk Road  
Wilmington, DE 19810**

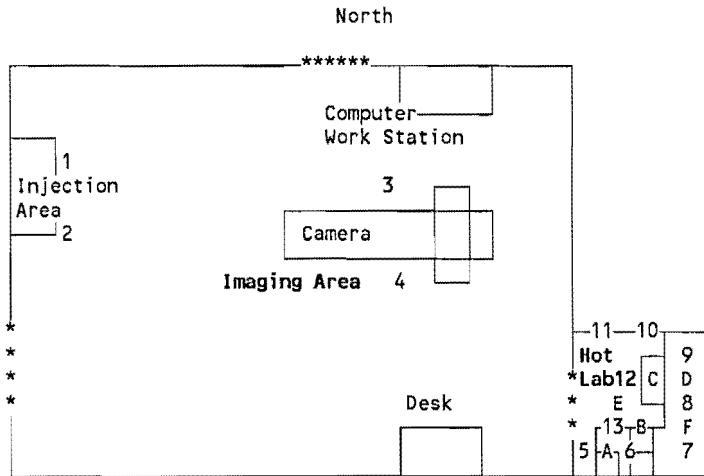
**September 27, 2012**

AREA	EXPOSURE READING (mR/hr)	BACKGROUND (mR/hr)	WIPE READING (Net DPM)	SURVEY METER	SURVEYOR
1	0.03	0.03	7.50	1	MWL
2	0.03	0.03	6.25	1	MWL
3	0.03	0.03	5.00	1	MWL
4	0.03	0.03	8.75	1	MWL
5	0.03	0.03	5.00	1	MWL
6	0.03	0.03	6.25	1	MWL
7	0.03	0.03	6.19	1	MWL
8	0.03	0.03	11.25	1	MWL
9	0.03	0.03	7.50	1	MWL
10	0.03	0.03	0	1	MWL
11	0.03	0.03	0	1	MWL
12	0.03	0.03	0	1	MWL
13	0.03	0.03	0	1	MWL

1. Survey Meter = Ludlum Model #14C, S/N 139372 (Calibration Date: 11/2011)
2. Ludlum 2200 SCA & Well Counter used for Removable Contamination Testing
3. Cobalt-57 Efficiency = 86.3%, C.F. = 1.16
4. Background reading from Ludlum 2200 SCA = 711 cpm
5. Net DPM = Gross CPM - BKG = Net CPM x C.F. = Net DPM
6. CPM = Counts Per Minutes  
BKG = Background  
C.F. = Correction Factor
7. Ambient exposure readings not to exceed background = 0.03 mR/hr  
Removable Contamination readings not to exceed 200 dpm/100 cm<sup>2</sup>
8. Survey Analysis completed by Michael W. Lairmore, Medical Physics Consultant
9. All radioactive waste held for ten half-lives & monitored before disposal.
10. Nuclear Cardiology Testing has not been performed at this imaging center since 12/2011.
11. Sealed Sources Used For Instrument Calibration have been transferred to our imaging center located at 5311 Limestone Road, Wilmington, DE.

Delaware Cardiology, LLC  
 2101 Foulk Road  
 Wilmington, DE 19810

Close-Out Survey - 9/27/2012  
Nuclear Cardiology Diagram



Legend:

- A. Well Counter
- B. L-Shield/Preparations Area/E-Vial Storage (1/4' lead-lining)
- C. Sealed Source Storage (Under Sink)
- D. Sink
- E. Package Receipt/Return Area
- F. Work Counter
- \*\*\* Locked Door

**Attachment B**  
**“Sealed Source Inventory & Leak Test Reports”**

## MEDICAL PHYSICS SURVEY SEALED SOURCE INVENTORY

FACILITY: Delaware Cardiology LLC

LOCATION: Willmington, DE

Nuclide:	Cs-137	Cs-137	Cs-137	Ba-133	Ba-133	<b>Cs-137</b>
Type:	Vial	Button	Rod	Rod	Vial	<b>Button</b>
Location:	Hot Lab	Hot Lab	Hot Lab	Hot Lab	Hot Lab	<b>Hot Lab</b>
Assay: (Date)	200 uCi 09/27/1985	1.0 uCi 4/2000	.038 uCi 01/01/1989	.045 uCi 09/17/1984	283 uCi 03/25/1986	<b>1.0 uCi</b>
Mgr.	Nuc. Assoc.	AP	Dupont	Dupont	Dupont	<b>Nucleus</b>
Serial No.:	1998540	----	----	----	S3580386A-17	<b>05-574-2</b>
Model:	67-356	----	----	----	NES-358	----
DATE						
09/26/12	X TS 09/26/12	X TS 09/26/12	X TS 09/26/12	X TS 09/26/12	X TS 09/26/12	X TS 09/26/12

X - Indicates source inventoried  
A - Sealed Sources Transferred From Foulk Road Office on September 26, 2012

RSO Signature \_\_\_\_\_

MEDICAL PHYSICS SURVEY  
SEALED SOURCE LEAK TEST ANALYSIS REPORT

FACILITY: Delaware Cardiology DEPARTMENT: Nuclear Cardiology

LOCATION: Wilmington, DE ATTENTION: George Davis, M.D.

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and reveals removable contamination was less than 0.001 uCi, unless otherwise noted, when compared against NIST traceable standards.

Source: Cs-137 Vial, 200 uCi on 09/27/1985; Nuclear Associates, S/N 1998540; Model: 67-356

Date: 09/26/12  
Wipe No.: DCA145  
MDA (uCi): 5.6E-5  
Net CPM: 10  
Net uCi: < MDA  
CPM for  
0.001 uCi: 236  
Analyst: M. Lairmore

Source: Ba-133 Vial; 283 uCi on 03/25/1986; Dupont, S/N S3580286A-17; Model #: NES-358

Date: 09/26/12  
Wipe No.: DCA146  
MDA (uCi) 1.63E-5  
Net CPM: 17  
Net uCi; < MDA  
CPM for  
0.001 uCi 696  
Analyst: M. Lairmore

Performed by: Michael W. Lairmore Associates

Under License No.: 29-30227-01

RSO Signature \_\_\_\_\_





This is to acknowledge the receipt of your letter/application dated

09/27/2012, and to inform you that the initial processing which includes an administrative review has been performed.

*Amendment (07-30527-01)*  
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 580383.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.