



**MID MICHIGAN CARDIOLOGY ASSOC., PLC**

1165 S. Linden Road Flint, MI 48532  
Phone: (810) 732-5400 Fax: (810) 733-1624

Ethiraj G. Raj, MD, FACC, FSCAI  
Mohamadali H. Amlani, MD, FACC  
Michelle Rossie, PA-C

Date: January 07, 2008

United States Nuclear Regulatory Commission  
Region III, Materials Licensing Section  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

RE: Notification of NRC License  
Close-out survey  
NRC License No.: 21-26540-01  
Facility Name: Mid-Michigan Cardiology Associates, PLC

The purpose of this letter is to close-out our old Nuclear Medicine Department on our current NRC license.

**Item #1:** A close-out survey was performed on December 12, 2007 and is enclosed for your review.

The last date of use of radioactive material in the old Nuclear Medicine Department location was December 7, 2007 for TI-201 and December 3, 2007 for Tc-99m. No other radioactive materials are used at this facility.

A current copy of the leak test results for the sealed sources used at our facility is enclosed for your review. Sealed Source Leak tests demonstrated no removable contamination. These sources include a Co-57 flood source, Cs-137 and Ba-133 vials for constancy and accuracy testing.

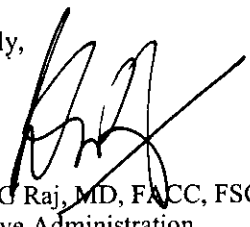
We did not dispose of radioactive materials by release to sewers or incineration. In addition, there were no spills of any long-lived radioactive material or on-site burials of radioactive materials.

**Item #2:** We would like to change our mailing address to: 1165 South Linden Road, Flint, Michigan 48532.

Please contact our physics consultant, Laura M Luna of the Medical Physics Consultants, Inc. at 734-662-3197, if you have any questions concerning these requests.

Thank you again for your cooperation.

Cordially,

  
Ethiraj G Raj, MD, FACC, FSCAI  
Executive Administration  
Mid-Michigan Cardiology Associates

**RECEIVED JAN 11 2008**

## Item #1

Close Out Survey  
Mid-Michigan Cardiology Associates  
2329 Stonebridge, Bldg E  
Flint, MI 48532

Date Performed: December 12, 2007

Performed By: Laura M. Luna, Physics Consultant

### Last date of byproduct radiopharmaceutical use:

The last date of use of radioactive material in the old Nuclear Medicine department location site was December 7, 2007 for Tl-201 and December 3, 2007 for Tc-99m. No other radioactive materials used at this facility. All radioactive sources were transferred to the new location prior to closeout.

### Well

Wipe tests were analyzed with a Captus 3000 well counter (S/N 900271). Efficiency for Cesium-137 is 7.46 dpm/cpm. MDA is 203.9 dpm.

### Survey Meter

Survey performed with Biodex 14C survey meter (S/N 101587) with end window probe calibrated on 03/21/07. Check source reading of 0.8 mR/hr. Range used was 0-.20 mR/hr.

### Visual Check

The area was checked to ensure that all radioactive waste had been removed. No radioactive material was located.

### Sealed Source Leak Testing

There is no history of leaks from any sealed sources.

### Radiation Level Survey

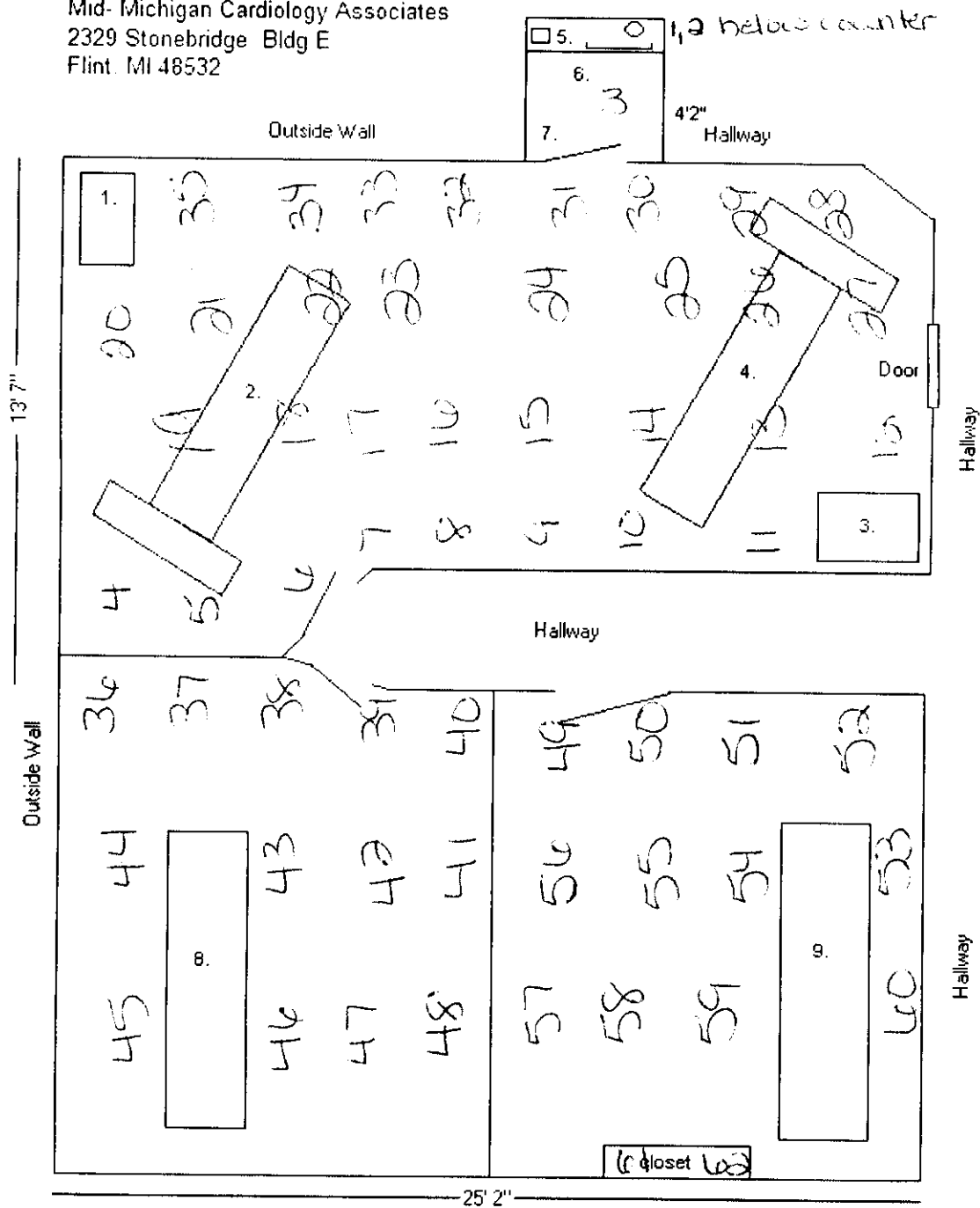
No area within the department demonstrated radiation levels in excess of the background reading of 0.02 mR/hr.

### Removable Contamination

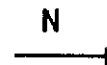
1 minute counts of a wipe sample covering at least a 100 square centimeter area

Close Out Survey  
License Number 21-26540-01

Mid- Michigan Cardiology Associates  
2329 Stonebridge Bldg E  
Flint, MI 48532



- |                        |                        |
|------------------------|------------------------|
| 1. Acquisition Station | 6. Radioactive Storage |
| 2. Camera              | 7. Package Receipt     |
| 3. Acquisition Station | 8. Treadmill #1        |
| 4. Camera              | 9. Treadmill #2        |
| 5. Counter             |                        |



**Mid-Michigan Cardiology Associates, P.L.C.****License # 21-26540-01**

**Date:** 12/12/07  
**Well Counter:** Captus 3000  
**Survey Meter:** Bicron 14C

Calibrated 03/21/07

**Performed By:** L. Luna  
**MDA:** 203.9 dpm  
**Check Value:** 2.1 mR/hr

	dpm		dpm		dpm
1	527	24	508	47	491
2	527	25	470	48	491
3	527	26	470	49	479
4	511	27	470	50	479
5	511	28	490	51	479
6	511	29	490	52	500
7	478	30	490	53	500
8	478	31	497	54	500
9	478	32	497	55	463
10	487	33	497	56	463
11	487	34	483	57	463
12	487	35	483	58	498
13	500	36	483	59	498
14	500	37	496	60	498
15	500	38	496	61	501
16	482	39	496	62	501
17	482	40	506		
18	482	41	506		
19	500	42	506		
20	500	43	512		
21	500	44	512		
22	508	45	512	<b>Bkg.</b>	<b>498</b>
23	508	46	491		

**ACTION LEVELS:** 1000 dpm Efficiency (dpm/cpm): 7.46  
< 0.2 mR/hr

**Maximum removeable contamination:** 527 dpm -498 dpm = 29 dpm

**COMMENTS:** No evidence of removable contamination.

Medical Physics Consultants, Inc.

**Sealed Source Leak Test**

Licensee: Mid-Michigan Cardiology Associates, PLC

Date: 10/11/07

Performed by: Laura Luna

Nuclide	Type	Calibration	Calibration	Location	M/N	S/N
		Activity	Date			
Cs-137	Vial	215 uCi	10/28/1993	Hot Lab	NES-356	S356026080
Ba-133	Vial	271 uCi	5/27/1993	Hot Lab	NES-358	S358015041
Co-57	Flood	10 mCi	6/18/2007	Hot Lab	MED3709	110004
Co-57	Flood	10 mCi	1/9/2006	Hot Lab	MED3709	68774

Comment: The sources listed above were leak tested using a dry wipe technique and were found to have less than 0.005 uCi removable activity. The following Minimum Detectable Activities are based upon a background at the indicated value. Background was at or below these levels when the above tests were completed.

Well Counter: Captus 3000

<u>Nuclide</u>	MDA	Background
Cs-137	$2.0 \times 10^{-4}$ uCi	145 counts/1 min
Ba-133	$8.8 \times 10^{-5}$ uCi	204 counts/1 min
Co-57	$1.7 \times 10^{-5}$ uCi	55 counts/1 min

**RADIATION SAFETY OFFICER:** \_\_\_\_\_

Mid-Michigan Cardiology  
Associates, PLC  
1165 South Linden Road  
Flint, Michigan 48532

2

United States Nuclear Regulatory Commission  
Region III, Materials Licensing Section  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

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1 From 11/10/08 Sender's FedEx Account Number 291440827

Sender's Name H.D-MICHIGAN CARDIOLOGY 810 732-5403

Company

Address 1165 S. LINCOLN

City Flint State MI ZIP 48532

2 Your Internal Billing Reference

3 To Recipient's Name Phone

Company U.S. Nuclear Regulatory Commission

Recipient's Address Region III, Materials Licensing Section

Address 2443 WARREN, 1/6 Rd. Ste 200

City Lisle State IL ZIP 60532-4352

4a Express Package Service  
☒ FedEx Priority Overnight  
Next business morning. \*FedEx shipments will be delayed on Monday unless SATURDAY Delivery is selected.  
☐ FedEx Standard Overnight  
Next business afternoon. \*Saturday Delivery NOT available.  
☐ FedEx First Overnight  
FedEx First Overnight morning delivery to select locations. \*Saturday Delivery NOT available.

4b Express Freight Service  
☐ FedEx 2Day  
Second business day. \*Thursdays shipments will be delivered on Monday unless SATURDAY Delivery is selected.  
☐ FedEx Express Saver  
Third business day. \*Saturday Delivery NOT available.  
☐ FedEx 1Day Freight  
Next business day. \*Thursdays shipments will be delivered on Monday unless SATURDAY Delivery is selected.  
☐ FedEx 2Day Freight  
Second business day. \*Thursdays shipments will be delivered on Monday unless SATURDAY Delivery is selected.  
☐ FedEx 3Day Freight  
Third business day. \*Saturday Delivery NOT available.

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☐ FedEx Pak  
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Surety Pak.  
☐ FedEx Box  
☐ FedEx Tube  
☐ Other

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☐ SATURDAY Delivery  
Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 2Day Freight.  
☐ HOLD Warehouse at FedEx Location  
Available only for FedEx Priority Overnight and FedEx 2Day Freight to select locations.  
☐ HOLD Saturday at FedEx Location  
Available only for FedEx Priority Overnight and FedEx 2Day Freight to select locations.

Does this shipment contain dangerous goods?  
☐ No ☐ Yes  
Dangerous goods including dry ice cannot be shipped in FedEx packaging.  
☐ Yes Shipper's Declaration and Request  
☐ Dry Ice  
Dry Ice, 9 UN 1845  
☐ Cargo Aircraft Only

7 Payment  
☒ Sender  
Pay to the order of the sender.  
☐ Recipient  
☐ Third Party  
☐ Credit Card  
☐ Cash/Check

Total Packages 11  
Total Weight 520

8 Residential Delivery Signature Options  
☐ No Signature Required  
Packages may be left without obtaining a signature for delivery.  
☐ Direct Signature  
Signature of recipient's address may sign for delivery. Per option.  
☐ Indirect Signature  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Per option.



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