



August 10<sup>TH</sup>, 2017

**UNITED STATES NUCLEAR REGULATORY COMMISSION**

Region III, Materials Licensing Section  
2443 Warrenville Road  
Suite 210  
Lisle, IL 60532-4352

Re: Amendment of NRC License No. 21-20313-01  
Close out survey

Dear Sir/Madam:

We wish to provide the following information, in an effort to amend our NRC license.

**Item #1:** Please delete the following location as an area of use from our license.

**Suite 580  
1200 E. Michigan Ave.  
Lansing, MI 48912**

Please note the following:

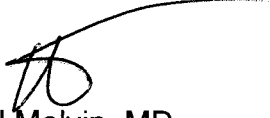
- A close-out survey and wipe test was performed on July 28, 2017 and the data is enclosed for your review.
- A map of the area(s) noted above keyed to the survey and wipe test data.
- The last date of use of byproduct material was July 28, 2017.
- The following radionuclide(s) (Sealed) Cs-137, Ba-133, Co-57 and Unsealed Tc99m, Tl-201 were used at this facility.
- All sealed source were transferred to a location of use listed on our license.
- All residual byproduct material to include waste was fully decayed in storage and disposed of or returned to the supplier.
- A current copy of the sealed source leak test results for the sealed sources used at our facility are enclosed for your review.

This facility is exempt from decommissioning due to low volumes and short physical half-lives of materials used. 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.

RECEIVED AUG 18 2017

If you have any questions, please contact our physicist James M. Botti, MS by phone at (734) 662-3197 or by email at [jbotti@mpcphysics.com](mailto:jbotti@mpcphysics.com).

Respectfully Yours,

A handwritten signature in black ink, appearing to be 'DM', with a long, sweeping horizontal line extending to the right above the signature.

Daryl Melvin, MD  
Radiation Safety Officer

Enclosures

## Close-out Survey

**Date performed:** July 28, 2017

**Performed by:** James M. Botti, MS

**Comments:** Sealed sources and radioactive trash were removed from these areas prior to survey and wipe testing.

### Instruments

Wipe tests analyzed with a Captinec CRC-25W Well Counter #260434

Instrument: Well Counter

Radionuclide: Cs-137      MDA for Cs-137      430 dpm's  
Date completed: 07/23/14      Conversion factor: 6.24 dpm/dpm

Area survey performed with the following survey meter:

Manufacturer: Ludlum  
Type: GM  
Model Number: 14C  
Serial Number: 169318  
Probe Model: End Window  
Annual Calibration Due: 02/02/18  
Battery check acceptable: YES  
Operational check acceptable: YES  
Constancy check acceptable: YES  
Current reading: 3.5 mR/hr

### Radionuclides Used

#### Unsealed

Tc99m, TI-201

#### Sealed

Co-57, Ba-133, Cs-137

#### Last date of byproduct radiopharmaceutical use:

July 28, 2017

**Visual Check:** The area was checked to ensure that all sealed sources and radioactive waste had been removed. No evidence of radioactive material was noted.

**Sealed Source Leak Testing:** Sealed Source Leak tests demonstrated no removable contamination.

**Leaking Sources:** There is no history of leaking sources at this facility.

**Radiation Level Survey:** No area within the department demonstrated radiation levels in excess of the background reading of 0.02mR/hr.

**Removable Contamination:** No area within the department demonstrated removable contamination excess of 48 dpm's.

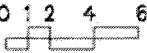
**Background: 217 cpm's**

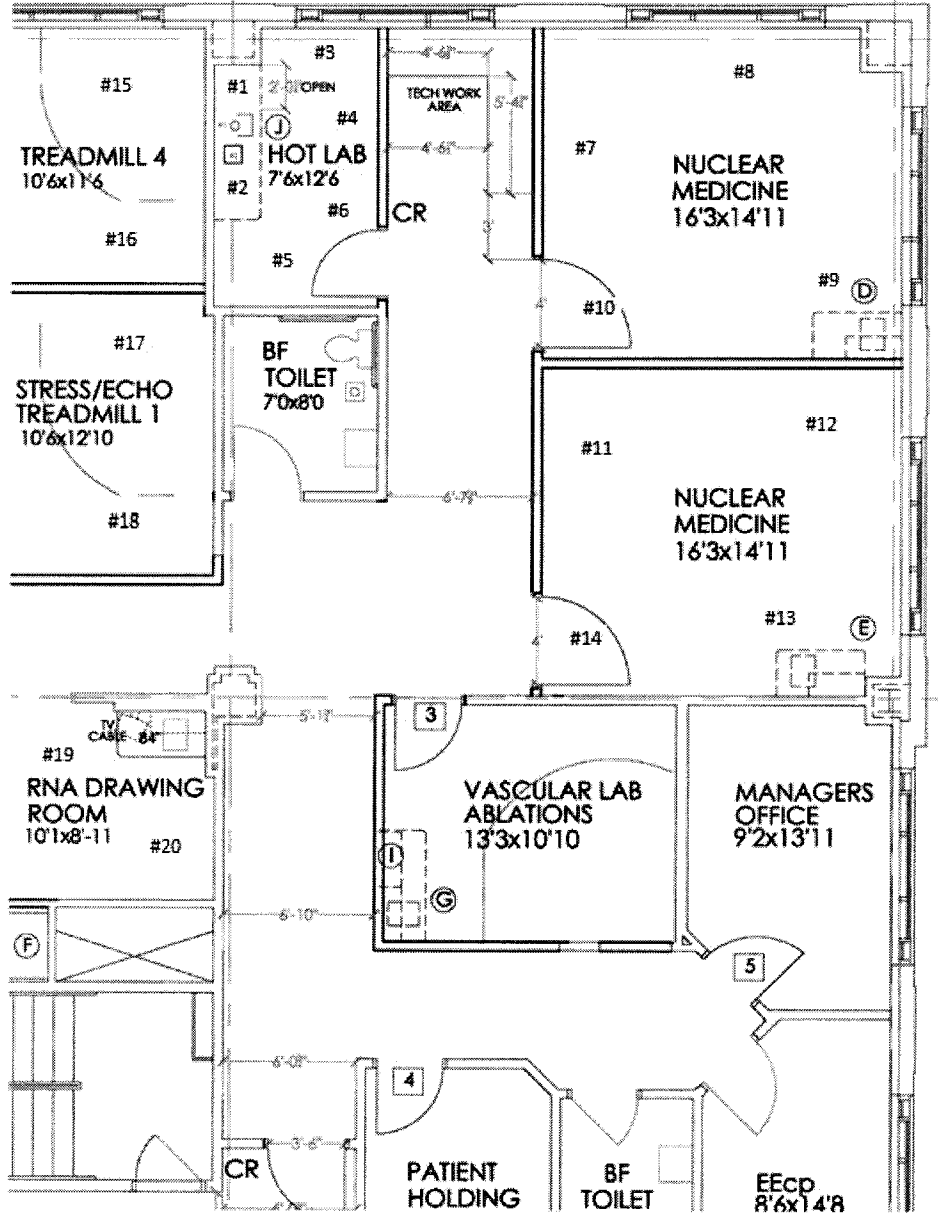
<b>Area</b>	<b>Result in dpms</b>
#1 Dose Prep Area	0
#2 Shielded Waste Storage	0
#3 Package Receipt	0
#4 Floor	0
#5 Countertop	0
#6 Doorway	0
#7 Floor	48
#8 Countertop	48
#9 Camera	48
#10 Floor	48
#11 Floor	18
#12 Countertop	18
#13 Camera	18
#14 Floor	18
#15 Treadmill Room #1	26
#16 Treadmill Room #1 Floor	26
#17 Treadmill Room #2	32
#18 Treadmill Room #2 Floor	32
#19 Countertop	0
#20 Camera	0

***Maximum removable contamination = 48 dpms***

**Conclusion:** No radioactive materials remain in this area. No removable contamination is present.

Suite 580  
 1200 E. Michigan Ave.  
 Lansing, MI 48912

6 NOV 2009  
 TCI HEART STATION  
 NUC MED ROOMS  
 SPARROW SPB  
 SCALE: 0 1 2 4 6  
  
 W2 ARCHITECTURE





## Sealed Source Leak Test

Licensee: Thoracic Cardiovascular Institute-Sparrow

Date: 04/20/17

Performed by: James Botti

Nuclide	Type	Calibration Activity	Calibration Date	Location	M/N	S/N
Cs-137	Vial	192.9 uCi	02/01/10	Hot Lab	RV-137-200U	1393-38-21
Current Activity: 163.3uCi						
Cs-137	Vial	274 uCi	03/01/83	Stored	CDCV1	3354MA
Current Activity: 124.5uCi						
Cs-137	Vial	200.5 uCi	11/01/06	Stored	RV-137-200U	1044-25-10
Current Activity: 157.4uCi						
Co-57	Flood	10 mCi	01/01/16	Hot Lab	MED3727	1862-045
Current Activity: 2.967mCi						
Co-57	Flood	10 mCi	10/01/16	Hot Lab	MED3709	1906-105
Current Activity: 5.98mCi						
Co-57	Flood	10 mCi	01/01/17	Hot Lab	MED3727	1919-023
Current Activity: 7.567mCi						
Ba-133	Vial	266.5 uCi	03/01/06	Hot Lab	RV-133-250U	1145-36-1
Current Activity: 127.9uCi						

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

Nuclide	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	53 counts/1 min

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

*[Handwritten Signature]*  
4/19/17

RECEIVED AUG 18 2017

ORIGIN ID:LANA (517) 364-9646  
JESSICA SMITH  
SPARROW HEALTH  
1140 E. MICHIGAN AVE  
SUITE 400  
LANSING, MI 48912  
UNITED STATES US

SHIP DATE: 17AUG17  
ACTWGT: 1.00 LB  
CAD: 110494861/INET3920

BILL SENDER

TO REGION 111, MATERIALS LICENSING SEC  
UNITED STATES NUCLEAR REGULATORY CO  
2443 WARRENVILLE ROAD  
SUITE 210  
LISLE IL 60532

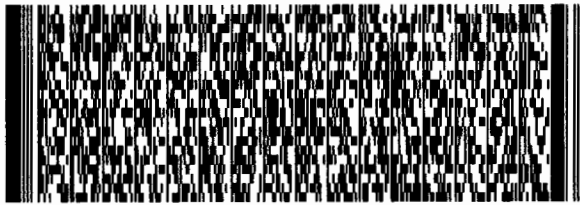
549.11577E104C

(800) 368-5642

REF: 11-7753

INV.  
PO:

DEPT



FedEx  
Express



J1721182281ur

FRI - 18 AUG 3:00P

STANDARD OVERNIGHT

TRK#  
0201

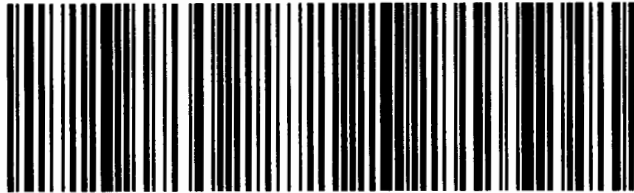
7700 3458 9458

XH ENLA

60532

IL-US

ORD



**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.