

# Cardiac Care Associates P.C.

- 1205 S. Main Street Suite 101  
Crown Point, IN 46307
- T (219) 662-0077
- F Business Office (219) 661-2155
- F Nursing Office (219) 662-9496

March 9, 2018

United States Nuclear Regulatory Commission  
 Region III, Material Licensing  
 2443 Warrenville Road, Suite 210  
 Lisle, IL 60532-4352

**RE: Termination of NRC License No. 13-26674-01  
 Cardiac Care Associates, P.C.**

Dear Sir/Madam:

It has recently come to our attention, that the termination request of our NCR license was not received by the NRC. Please note that the request for termination and closeout of our nuclear medicine department was performed in July of 2017.

We would like to request the termination of our NRC license number 13-26674-01. As of July 25, 2017, nuclear medicine procedures were no longer provided. As required, NRC Form 314, the most recent sealed source leak test, the close-out survey results and diagram are enclosed. We have also included the confirmation of receipt from Bionomics, Inc. for the disposal of the radioactive sources.

If you have any questions, please do not hesitate to contact our medical physics consultant, Sharon Updike, MHP, at (517) 795-8786.

Respectfully Yours,

Cheryl Agent, Practice Administrator  
 Cardiac Care Associates, P.C.

PRACTICE LIMITED TO CARDIOVASCULAR DISEASE AND CLINICAL CARDIAC ELECTROPHYSIOLOGY

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B. Sagalovsky, M.D., F.A.C.C.  
 Board Certified  
 Cardiovascular Diseases  
 and Interventional Cardiology

G. Brigham, M.D., F.A.C.C.  
 Board Certified  
 Cardiovascular Diseases  
 and Cardio Electrophysiology

RECEIVED MAR 12 2018



### CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the FOIA, Privacy, and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollections.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE NAME AND ADDRESS

Cardiac Care Associates, P.C.  
1205 S. Main Street  
Suite 101  
Crown Point, IN 46307

LICENSE NUMBER

13-26674-01

DOCKET NUMBER

030-33947

LICENSE EXPIRATION DATE

September 20, 2021

**A. LICENSE STATUS (Check the appropriate box)**

- This license has expired.
- This license has not yet expired; please terminate it.

**B. DISPOSAL OF RADIOACTIVE MATERIAL**

*(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)*

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner.
  - a. Transfer of radioactive materials to the licensee listed below:
  - b. Disposal of radioactive materials:
    - 1. Directly by the licensee:
    - 2. By licensed disposal site:
    - 3. By waste contractor:
 

All radioactive sealed sources were transferred for disposal on July 25, 2017 by Bionomics, Inc., 1550 Bear Creek Rd., Oak Ridge, TN 37830.
  - c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

**C. SURVEYS PERFORMED AND REPORTED**

- 1. A radiation survey was conducted by the licensee. The survey confirms:
  - a. the absence of licensed radioactive materials
  - b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- 2. A copy of the radiation survey results:
  - a. is attached; or  b. is not attached (Provide explanation); or  c. was forwarded to NRC on: \_\_\_\_\_ Date
- 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
  - a. The results of the latest leak test are attached; and/or
  - b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Cheryl Agent	Practice Administrator	219-662-0077	cheryl.agent@cardiaccareassociates.com

Mail all future correspondence regarding this license to:  
1205 S. Main St., Suite 101, Crown Point, IN 46307

**C. CERTIFYING OFFICIAL**  
**I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT**

PRINTED NAME AND TITLE	SIGNATURE	DATE
Cheryl Agent, Practice Administrator	<i>Cheryl Agent</i>	7/25/2017

**WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 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.**

UNIFORM LOW-LEVEL RADIOACTIVE  
WASTE MANIFEST  
SHIPPING PAPER

1. EMERGENCY TELEPHONE NUMBER (Include Area Code)  
865-220-8520

ORGANIZATION  
BIONOMICS, INC.

2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?  
 YES  
 NO

3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST  
1 - 5 gal. Plastic Pail

4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?  
 YES  
 NO  
If "Yes" provide Manifest Number

EPA MANIFEST NUMBER  
N/A

5. SHIPPER - NAME AND FACILITY  
Cardiac Care Associates  
1206 S. Main St.  
Cowan Point, IN 46307

USER PERMIT NUMBER      SHIPMENT NUMBER

CONTACT  
Lisa Kracich

BIONOMICS, INC.  
1550 BEAR CREEK RD.  
OAK RIDGE, TN 37830

CONTACT  
JOHN McCORMICK

SIGNATURE - Authorized consignee acknowledging waste receipt  
*John McCormick*

SHIPPER I.D. NUMBER  
COLLECTOR  
PROCESSOR

GENERATOR TYPE (Specify)  
 M

TELEPHONE NUMBER (Including Area Code)  
(219) 662-0077

TND982116493

SHIPPING DATE  
7/25/17

TELEPHONE NUMBER (Including Area Code)  
865-220-8501

DATE  
7/25/17

7. NRC FORM 540 AND 540A PAGE 1 OF 1  
NRC 541 AND 541A 1 PAGE(S)  
NRC 542 AND 542A 1 PAGE(S)  
ADDITIONAL INFORMATION 1 PAGE(S)

8. CONSIGNEE - Name and Facility Address  
ENERGY SOLUTIONS (Duratek)  
1560 Bear Creek Road  
Oak Ridge, TN 37831

SIGNATURE - Authorized consignee acknowledging waste receipt  
DATE

10. CERTIFICATION

This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 19 CFR Parts 28 and 61, or equivalent state regulations.  
AUTHORIZED SIGNATURE: *Lisa Kracich* TITLE: *Quality Tech NV Coord* DATE: *7-25-17*

11. (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES	16. TOTAL PACKAGE ACTIVITY IN SI UNITS	17. ICA/SCCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
UN3321, Radioactive Material, Low Specific Activity (LSA-II), 7	N/A	N/A	Solid / Oxides	Ba133 ; Cs137	8.6876 MBq	N/A	0.02 m3	CCA-01

FOR CONSIGNEE USE ONLY

BIONOMICS, INC.

NRC FORM 541				BIONOMICS, INC.				1. MANIFEST TOTALS						2. MANIFEST NUMBER	
UNIFORM LOW-LEVEL RADIOACTIVE MANIFEST WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION  Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				NUMBER OF PACKAGES/DISPOSAL CONTAINERS	NET VOLUME (m3)	NET WEIGHT (kg)	SPECIAL NUCLEAR MATERIAL (grams)				72517CCA				
				1	0.02	2.3	U-233	U-235	Pu	TOTAL	PAGE 1 OF 1 PAGE(S)				
				ALL NUCLIDES				TRITIUM		ACTIVITY (MBq)		SOURCE		SHIPPER NAME	
				8.6876		NP	NP	NP	0.0074	NP	Cardiac Care Associates				
DISPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
5. CONTAINER IDENTIFICATION NUMBER / GENERATOR NUMBER	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m3)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL (mSv/hr)	10. SURFACE CONTAMINATION (mBq/100 cm <sup>2</sup> )		11. PHYSICAL DESCRIPTION			12. CHEMICAL DESCRIPTION		13. RADIOLOGICAL DESCRIPTION			
ID NUMBER					ALPHA	BETA-GAMMA	WASTE DESCRIPTION (See Note 2)	APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)	SORBENT, SOLIDIFICATION, STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM / CHELATING AGENT	WEIGHT % CHELATING AGENT (IF > 0.1%)	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
CCA-01	3 Plastic Drum or Pail	0.02	2.3	0.03	<3.34E-7	<1.67E-5	59. Other, Indeterminable	0.02	100	Oxides / NP	N/A	Ba133 3.9886 Cs137 4.6990 Total 8.6876	N/A		

NOTE 1: Container Description Codes: For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "OP".

1. Wooden Box or Crate	9. Demineralizer
2. Metal Box	10. Gas Cylinder
3. Metal Drum or Pail	11. Bulk, Unpackaged Waste
4. Plastic Drum or Pail	12. Unpackaged Components
5. Metal Tank or Liner	13. High Integrity Container
6. Concrete Tank or Liner	19. Other, Describe in Item 6, or additional page.
7. Polyethylene Tank or Liner	
8. Fiberglass Tank or Liner	

NOTE 1A: Process Type Codes Are Specific To Bionomics and Only Apply To How The Waste Will Be Processed / Handled By The Client. Use up to two process codes and one disposal site.

1A. Supercompact	15A. Burned
2A. Incineration	15B. Rinsed
3A. Trash	15C. Evaporated
4A. Subly	16A. Return
5A. Encapsulate	20A. Other, Specify in the block or on an attached page.
6A. Mixed Heat	
7A. Sort	
8A.	
9A.	
10A. Other, Specify in the block or on attached page.	

NOTE 2: Waste Descriptor Codes: (Choose up to three predefine by volume.)

29. Charcoal	29. Demolition Rubble	39. Evaporator Bottoms / Sludges / Concentrates
21. Incinerator Ash	30. Carbon Ion-exchange Media	40. Noncompatible Trash
22. Soil	31. Anion Ion-exchange Media	41. Animal Carcasses
23. Gas	32. Mixed Bed Ion-exchange Media	42. Biological Material (except animal carcasses)
24. Oil	33. Contaminated Equipment	43. Activated Material
25. Aqueous Liquid	34. Organic Liquid	59. Other, Describe in Item 11, or additional page.
26. Filter Media	35. Glassware or Laboratory	
27. Manufactured Filter	36. Sealed Source / Device	
28. EPA or State Hazardous	37. Paint or Plating	

NOTE 3: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "S". For all solidification media, the vendor (manufacturer) brand name must also be identified in Item 13, Code 100 NONE REQUIRED.

50. Spread Dtl	68. Solid A Sorb	77. Asphalt II	81. Concrete
61. Cellulose	69. Chemical SO	89. Other (nonasphaltic)	92. Bitumen
62. Floor Dry	70. Chemical SP30	Describe in Item 13, or additional page.	93. Vinyl Chloride
63. Paperlite	71. Chemical SP300		94. Other, Describe in Item 13, or additional page.
64. JH Dtl	72. Disposal HP200		100. None Required
65. Solid T Sorb	73. Disposal HP500		
66. Solid N Dtl	74. Polymer		
67. Floor	75. Polymer II		
68. Floor X	76. Asphalt		



**Sealed Source Leak Test**

Licensee: Cardiac Care Associates, P.C.

Date: 04/25/17

Performed by: Sharon Updike

Nuclide	Type	Calibration		Location	M/N	S/N
		Activity	Date			
Ba-133	Vial	283.8 uCi	07/01/02	Hot Lab	IPL	934-17-2
Current Activity: 106.92 uCi						
Cs-137	Vial	206 uCi	02/09/96	Hot Lab	NES-356	S356032031
Current Activity: 126.17 uCi						

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>	<u>MDA</u>	<u>Background</u>
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:** \_\_\_\_\_

**Cardiac Care Associates, PC****License # 13-26674-01****CLOSEOUT SURVEY RESULTS****Date:** 7/25/2017**Performed By:** Sharon Updike, MHP

Wipe	AREA	Bkg. 239 cpm		Bkg. 0.02 mR/hr	
		gross cpm	net dpm		mR/hr
1	Hot Lab countertop	234.00	0		0.02
2	Hot Lab countertop	202.00	0		0.02
3	Hot Lab countertop	272.00	66		0.02
4	Hot Lab floor	275.00	72		0.02
5	Hot Lab floor	249.00	20		0.02
6	Hot Lab floor	227.00	0		0.02
7	Hot Lab floor	255.00	32		0.02
8	Hot Lab countertop	216.00	0		0.02
9	Hot Lab countertop	267.00	56		0.02
10	Hot Lab countertop	210.00	0		0.02
11	Hot Lab floor	263.00	48		0.02
12	Hot Lab floor	266.00	54		0.02
13	Stress Room Floor	241.00	4		0.02
14	Stress Room Floor	233.00	0		0.02
15	Stress Room Floor	244.00	10		0.02
16	Stress Room treadmill	236.00	0		0.02
17	Stress Room bed	224.00	0		0.02
18	Stress Room Floor	273.00	68		0.02
19	Stress Room Floor	240.00	2		0.02
20	Stress Room Floor	245.00	12		0.02

**ACTION LEVELS:** 2000 dpm/100 cm<sup>2</sup>  
< 0.2 mR/hr

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

**Cardiac Care Associates, PC**

**License # 13-26674-01**

**CLOSEOUT SURVEY RESULTS**

**Date:** 7/25/2017

**Performed By:** Sharon Updike, MHP

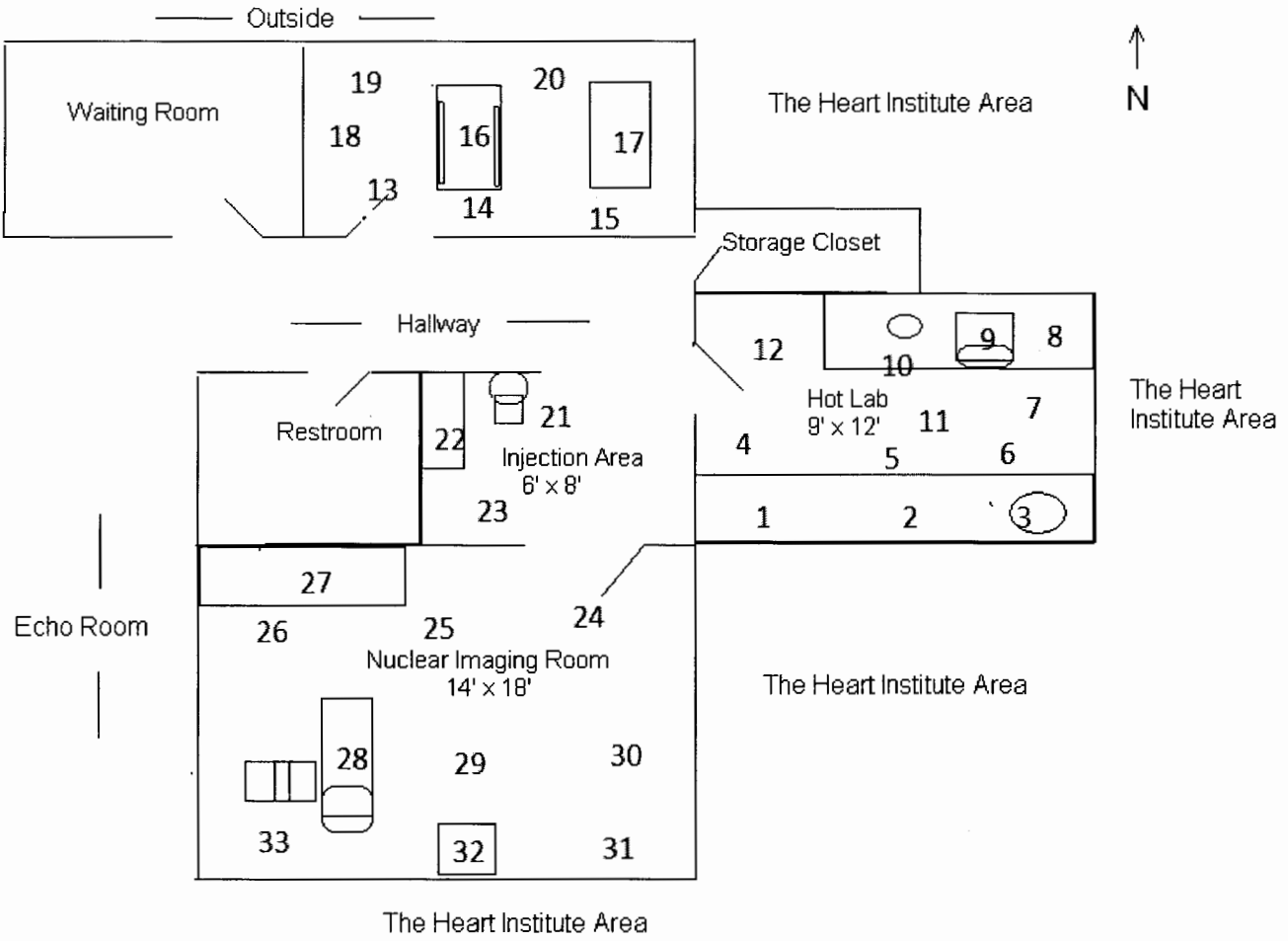
		Bkg. 239 cpm		Bkg. 0.02 mR/hr
	AREA	gross cpm	net dpm	mR/hr
21	Hot Lab countertop	258.00	38	0.02
22	Hot Lab countertop	240.00	2	0.02
23	Hot Lab countertop	239.00	0	0.02
24	Imaging Area floor	279.00	80	0.02
25	Imaging Area floor	246.00	14	0.02
26	Imaging Area floor	246.00	14	0.02
27	Imaging Area countertop	262.00	5.5	0.02
28	Nuclear Imaging Chair	256.00	5.5	0.02
29	Imaging Area floor	280.00	5.5	0.02
30	Imaging Area floor	231.00	0	0.02
31	Imaging Area floor	229.00	0	0.02
32	Acquisition Station	257.00	36	0.02

**ACTION LEVELS:** 2000 dpm/100 cm<sup>2</sup>  
 < 0.2 mR/hr  
**COMMENTS:** No evidence of removable contamination.

**Closeout**

**Facility Diagram**

Cardiac Care Associates, P.C.  
1205 S. Main Street, Suite 101  
Crown Point, IN 46307



There are physician offices located above and radiation therapy located below the nuclear department.

The hot lab is under lock and/or key if unattended.

The Heart Institute Area  
SECURITY-RELATED INFORMATION WITHHOLD UNDER 10 CFR 2.390



## Close-out Survey/Information

**Date performed:** July 25, 2017

**Performed by:** Sharon Updike, MHP, DABR

**Comments:** Sealed sources were removed from our department for transfer to a disposal site by Bionomics, Inc. prior to performing the close-out survey.

### **Instruments**

Wipe tests analyzed with a Ludlum 2200 Well Counter  
s/n : 125371

Radionuclide: Cobalt-57                      MDA for Co-57: 133.0 dpm  
Date Efficiency performed: 04/17/16      Conversion factor: 2.0 dpm / cpm

Area survey performed with the following survey meter:

Manufacturer: Ludlum  
Type: GM  
Model Number: 14C  
Serial Number: 122258  
Probe Model: EW  
Annual Calibration Performed: 06/10/17  
Battery check acceptable: YES  
Operational check acceptable: YES  
Current reading: 20.0 mR/hr

### **Historical Use of Radionuclides from inception of NRC license:**

#### **Unsealed**

Tc99m, TI-201

#### **Sealed**

Ba-133, Cs-137

**Last date of byproduct radiopharmaceutical use:** 07/24/17

**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:** No history of leaks from Sealed Sources. Most recent sealed source leak test is attached.

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

**Removable Contamination:** No area within the department demonstrated removable contamination in excess of 80 dpm's.

***Imaging, Injection, Hot Lab, and Stress Room***

See Diagram Attachment

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

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