

# Yale *Environmental Health & Safety*

135 College Street, Suite 100  
New Haven CT 06510-2483  
T 203 785-3550 F 203 785-7588  
www.yale.edu/ehs

May 25, 2011

*MS16*

*J-6*

Mr. Dennis Lawyer  
Mail Control # 575063  
USNRC Region 1  
475 Allendale Road  
King of Prussia, PA 19406-1415

Re: NRC Request for Additional Information Concerning Application for Amendment to  
Yale University Licenses, Control # 575063

*03000592*

Dear Mr. Lawyer:

This is a response to your email dated May 24, 2011 in which you requested additional information regarding the request to remove a cesium 137 source line item (6.11) from Yale University NRC License # 06-00183-03.

Enclosed you will find written confirmation from the receiving vendor that the source has indeed been transferred. In addition leak test results for the last leak test performed on this source are as follows:

Leak test was performed on May 21, 2010 and no counts above background were detected. Result recorded as < 0.005 uCi.

If you have any further questions on this matter, please contact me at 203.737.2140 or [tammy.stemen@yale.edu](mailto:tammy.stemen@yale.edu). Thank you for your timely assistance.

Sincerely,



Tammy Stemen, CHP  
Radiation Safety Officer  
Yale University

*575063*

REC'D IN LAT MAY 26 2011

NMSS/RGN1 MATERIALS-002



P.O. Box 817 - Kingston, TN 37763 - (865) 220-8501

August 27, 2010

Mr. James Watkins  
Yale University  
Environmental, Health & Safety  
268 Whitney Ave.  
New Haven, CT 06511

RE: Barnwell Disposal Certificate

Dear Mr. James Watkins:

This is to certify that the following radioactive material picked at your facility on June 22, 2010, on manifest # 62210, container # YALE1, has been disposed of at the Barnwell Waste Management Facility in Barnwell, SC.

Please reference the following table for detailed disposal information of shipment.

Barnwell Manifest Number	Barnwell Container Number	Disposal Volume (m <sup>3</sup> )	Barnwell Shipment Number	Barnwell Disposal Date
0810-13935	B10-3	0.60	0810-13935	08/18/2010

If you have any questions please feel free to contact me at (865) 220-8501.

Thank you,

Rene Guy  
Administrative Manager

Cc: File



P.O. Box 817 - Kingston, TN 37763 - (865) 220-8501

June 28, 2010

Mr. James Watkins  
Yale University  
Environmental, Health & Safety  
268 Whitney Ave.  
New Haven, CT 06511

Dear Mr. James Watkins:

As required by 10 CFR Part 20 (Appendix G), this letter is notification that Bionomics, Inc. has received the shipment recently picked up at your facility on June 22, 2010. Attached you will find a copy of your NRC Form 540, the only change from the original is in Item No.9 "signature" which identifies that Bionomics, Inc. is acknowledging receipt of waste from your facility.

Please keep this with your original, as well as future disposal certifications.

If you have any questions please feel free to contact me at (865) 220-8501.

Sincerely,



Rene Guy  
Administrative Manager

Cc: File BIO-06-10

**UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER**

**BIONOMICS, INC.**

**SHIPPER - NAME AND FACILITY**  
 Bionomics For  
 Yale University  
 25R Whitney Ave.  
 New Haven, CT 06511

**SHIPPER I.D. NUMBER**  
 50-06-10

**7. NRC FORM 540 AND 542A PAGE 1 OF 1**  
 NRC 540 AND 542A  
 NRC 540 AND 542A  
 ADDITIONAL INFORMATION  
 PAGES(S) 1 PAGE(S) 2 PAGE(S) 0 PAGE(S)

**8. MANIFEST NUMBER**  
 (Use the number on all certification pages)  
 62210

**1. EMERGENCY TELEPHONE NUMBER (Include Area Code)**  
 (865) 229-8520

**USER PERMIT NUMBER**  
 SHIPMENT NUMBER

**2. ORGANIZATION**  
 BIONOMICS, INC.

**3. CONTACT**  
 James Watkins

**4. GENERATOR TYPE (Specify)**  
 X  
 SA

**5. CARRIER - Name and Address**  
 Bionomics Inc.  
 1550 Bear Creek Road  
 Oak Ridge, TN, 37830

**6. CONTACT**  
 John McCormick

**TELEPHONE NUMBER (Including Area Code)**  
 (203) 438-4234

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

**EPA I.D. NUMBER**  
 TND982116493

**SHIPPING DATE**  
 6-22-10

**DATE**  
 6-22-10

**9. SIGNATURE - Authorized consignee's knowledge unless except**  
 P  
**10. CERTIFICATION**  
 This is to certify that the hazardous 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 18 CFR Parts 19 and 61, or equivalent state regulations.

**11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION**  
 (Including proper shipping name, hazard class, UN ID number, and any additional hazard(s))

**12. DOT LABEL "RADIOACTIVE"**  
 WHITE 1

**13. TRANSPORT INDEX**  
 112

**14. PHYSICAL AND CHEMICAL FORM**  
 Solid / Oxides

**15. INDIVIDUAL RADIONUCLIDES**  
 Cs-137

**16. TOTAL PACKAGE ACTIVITY IN SI UNITS**  
 128500MBq

**17. ILS/SCO CLASS**  
 NA

**18. TOTAL WEIGHT OR VOLUME (Use appropriate unit)**  
 1.484m3

**19. CERTIFICATION NUMBER OF PACKAGE**  
 Yale 1

**FOR CONSIGNEE USE ONLY**

**BIONOMICS, INC.**

**PN**

<b>HRC FORM 541</b>	<b>ECONOMICS, INC.</b>	<b>1. MANIFEST TOTALS</b>	<b>2. MANIFEST NUMBER</b>						
<b>UNIFORM LOW-LEVEL RADIOACTIVE MANIFEST WASTE MANIFEST</b>  <b>CONTAINER AND WASTE DESCRIPTION</b>  <small>Additional Nuclear Regulatory Commission (NRC) Requirements for Content, Transfer and Disposal of Radioactive Waste</small>	NUMBER OF DISPOSABLE CONTAINERS	NET VOLUME (cc)	NET WEIGHT (lb)	<b>SPECIFIC NUCLEAR MATERIAL CONTENT</b>				50240	
	1	0.1	589.7	U-235	U-238	Pu	TOTAL	PAGE 1 OF 1 PAGES	
					NP	NP	NP	NP	SOURCE
	ACTIVITY (MBq)				C-14	Tc-99	I-129	NP	Yale University
ALL INCLUDES		TITANIUM	C-14	Tc-99	I-129	NP	NP	SHIPMENT NUMBER	
129500		NP	NP	NP	NP	NP	NP		

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							WASTE CLASSIFICATION A- Class A B- Class B C- Class C
5. CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (cc)	8. WASTE AND CONTAINER WEIGHT (lb)	9. SURFACE RADIATION LEVEL (mSv/hr)	10. SURFACE CONTAMINATION (dpm/100cm <sup>2</sup> )		11. PHYSICAL DESCRIPTION			12. CHEMICAL DESCRIPTION		13. RADIOLOGICAL DESCRIPTION		
					ALPHA	BETA-GAMMA	11A. WHITE DISC/FP-TOP (See Note 2)	11B. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (cc)	11C. SOLVENT, SOLIDIFICATION, STABILIZATION MEDIA (See Note 3)	12A. CHEMICAL FORM / CHELATING AGENT	12B. WEIGHT % CHELATING AGENT IF > 0.1%	13A. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE RESIDENT		
Yale 1	4 100 liter Fiber-Bed METAL Box	1.484	589.7	0.0002	<3.34E-7	<1.87E-6	38 Sealed Source/Device	1.484	100	Oxides	N/P	N/P	Cs137 129500	C

**NOTE 1: Container Description Codes:** For container description codes, the disposal is approved standard receptacle. For container codes must be followed by "OP".

1. Metal Box or Can	9. Drum/Container
2. Metal Drum	10. Fiber Container
3. Plastic Drum or Pail	11. Box, Unpackaged Waste
4. Metal Drum or Pail	12. Unpackaged Container
5. Metal Tank or Line	13. High Integrity Container
6. Composite Tank or Line	14. Other, Describe in Item 6, or additional page.
7. Polyethylene Tank or Line	
8. Fiberglass Tank or Line	

**NOTE 10: Process Type Codes Are Specific To Materials and Only Apply To How The Waste Will Be Processed / Handled By The Contractor. Use up to two process codes and use disposal code.**

1A. Reprocessing	11A. Storage
2A. Incineration	12A. Refueling
3A. Transport	13A. Encapsulation
4A. Solidify	14A. Other
5A. Excavation	20A. Other, Specify in the block or on an attached page.
6A. Metal Melt	
7A. Sort	
8A	
9A	

20A Other, Specify in the block or on an attached page.

**Note 2: Waste Description Codes: (Choose up to three preferences by volume.)**

20. Chemical	26. Demolition Debris	32. Explosives/Initiators / Blazes / Corrosives
21. Inherently Air	27. Carbon low-exchange Media	33. Compressible Trash
22. Ash	28. Airline low-exchange Media	34. Noncompressible Trash
23. Slud	29. Mixed Soil low-exchange Media	35. Airfall Contaminant
24. LSL	30. Contaminated Equipment	36. Biological Material (except animal carcasses)
25. Aqueous Liquid	31. Organic Liquid	37. Activated Material
26. Other Media	32. Other waste of Interest	38. Other, Describe in Item 11, or additional page.
27. Mechanical Floor	33. Sealed Sources / Devices	
28. EPA or State Hazardous	34. Paint or Pigment	

**Note 3: For radionuclide waste that must depend on strength/density requirements, the container code must be followed by "OP". For all radionuclide waste, the waste type (included here) must also be identified in Item 13. Code 999-NONE DECLARED.**

DESCRIPTION	66. Sub A Box	71. Agitated	81. Concrete
67. Agitated Box	68. Sub B Box	72. Other	82. Encapsulation
69. Other	70. Other	73. Describe in Item 13, or additional page.	83. Storage
74. Other, Describe in Item 13, or additional page.	75. Other	76. Other	84. Other, Describe in Item 13, or additional page.
77. Other	78. Other	79. Other	85. Other
80. Other	81. Other	82. Other	83. Other
84. Other	85. Other	86. Other	87. Other
88. Other	89. Other	90. Other	91. Other
92. Other	93. Other	94. Other	95. Other
96. Other	97. Other	98. Other	99. Other