

May 31, 2017

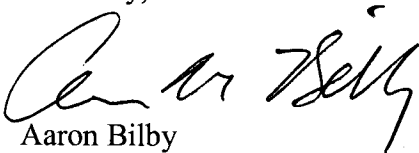
U. S. Nuclear Regulatory Commission  
Materials Licensing Section  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

Dear Sir or Madam:

Medical Consultants, P.C. would like to terminate its Byproduct Materials License, Number 13-32412-01. The facility has ceased operations. A close-out survey was performed on January 6, 2017, the results of which are enclosed. All sealed sources have been properly disposed of and none of them were ever found to be leaking.

If there are any questions concerning this termination request, please contact our nuclear medicine physicist, Mr. Patrick J. Byrne, DABR, CHP, DABSNM, at 877-317-5811.

Sincerely,



Aaron Bilby  
Director of Clinical Operations  
IU Health Physicians

RECEIVED JUN 06 2017



**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 Infocollects.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

Indiana University Health Ball Memorial Physicians  
2525 W. University Avenue, Suite 300  
Muncie, Indiana 47303

LICENSE NUMBER

13-32412-01

DOCKET NUMBER

030-36069

LICENSE EXPIRATION DATE

8/31/2022

**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:  
USNRC 21-2-153-01; State of California 1509-19
  - b. Disposal of radioactive materials:
    - 1. Directly by the licensee:  
Decay in storage
    - 2. By licensed disposal site:
    - 3. By waste contractor:
  - 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
Patrick Byrne	Medical Physicist	(734) 717-8731	pbyrne@mpcphysics.com

Mail all future correspondence regarding this license to:

**C. CERTIFYING OFFICIAL**

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE	SIGNATURE	DATE
Aaron M Bilby Operations Director	<i>[Handwritten Signature]</i>	6/1/17

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.

Close-out survey of  
IU Health Ball Memorial Physicians  
2525 West University Avenue, Suite 300, Muncie, Indiana, 47303

Performed by: Patrick J. Byrne, DABR, CHP, DABSNM  
Medical Physics Consultants, Inc.

Radioactive materials usage at this address of use was limited to diagnostic medical procedures in humans with technetium-99m and thallium-201, along with the use of sealed sources for equipment calibration and quality control. The last usage of radioactive materials in patients occurred on January 6, 2017.

Wipe tests for removable radioactive contamination were taken on 01/19/17 and analyzed in a Ludlum Model 243 (S/N: 145366) Shielded Well Scintillator coupled to a Ludlum Model 2200 (S/N: 138705) Scaler Ratemeter. A window of 50 to 400 keV was used to analyze the wipes. The efficiency of this system for cobalt-57 with a window of 50-400 keV is 1.09 dpm/cpm. The results of the wipe tests are enclosed.

The radiation levels survey was performed on 01/19/17 by Patrick Byrne, using a Ludlum 14C Geiger-Muller survey meter (S/N: 74577). The meter was calibrated on 02/24/16. The range used for the radiation level survey was 0.0 to 0.5 mR/hr.

Visual Inspection

The area was visually inspected to ensure that all radioactive waste had been removed. No radioactive material was located in the area.

Radiation Level Survey

No area demonstrated radiation levels in excess of the background reading of 0.01 mR/hr.

Sealed Sources

All sealed sources have been transferred to USNRC Materials License 21-20153-01 and State of California Radioactive Materials License 1509-19. No sealed source had ever been found to be leaking. Enclosed is a copy of the results of the last leak tests performed on the sealed sources prior to transfer.

### Removable Contamination Survey Results

Wipe samples were counted in a Ludlum Model 243 Shielded Well Scintillator (S/N: 145366) coupled to a Ludlum Model 2200 Scaler Ratemeter (S/N: 138705). The efficiency of this system for Cobalt-57 with a counting window of 50-400 keV is 1.09 dpm/cpm. Background on this window was 293 counts per minute.

Wipe Number	Gross counts per minute	Net counts per minute	Disintegrations per minute
1	316	23	25.07
2	319	26	28.34
3	275	0	0
4	301	8	8.72
5	318	25	27.25
6	287	0	0
7	315	22	23.76
8	294	1	1.09
9	310	17	18.53
10	296	3	3.27
11	310	17	18.53
12	289	0	0
13	290	0	0
14	313	20	21.8
15	301	8	8.72
16	272	0	0
17	281	0	0
18	289	0	0
19	327	34	37.06

\*Please refer to the attached survey map for wipe locations.

Maximum removable contamination occurred in area 19. Gross count rate = 327 cpm/100cm<sup>2</sup>. Net count rate (gross minus background) = 327 - 293 = 34 cpm/100cm<sup>2</sup>. Net removable disintegrations per minute = 34 cpm/100cm<sup>2</sup> x 1.09 dpm/cpm = 37.06 dpm/100cm<sup>2</sup>.

#### Conclusion

As of 1/23/17, all radioactive materials have been removed from the area of use and no removable contamination is present.



**Sealed Source Leak Test**

Licensee: Medical Consultants

Date: 03/08/17

Performed by: Bryce Caudle

Nuclide	Type	Calibration		Location	M/N	S/N
		Activity	Date			
Co-57	Flood	10mCi	04/01/16	Hot Lab	PF16R05710M	1873-062
Current Activity:		4.18mCi				

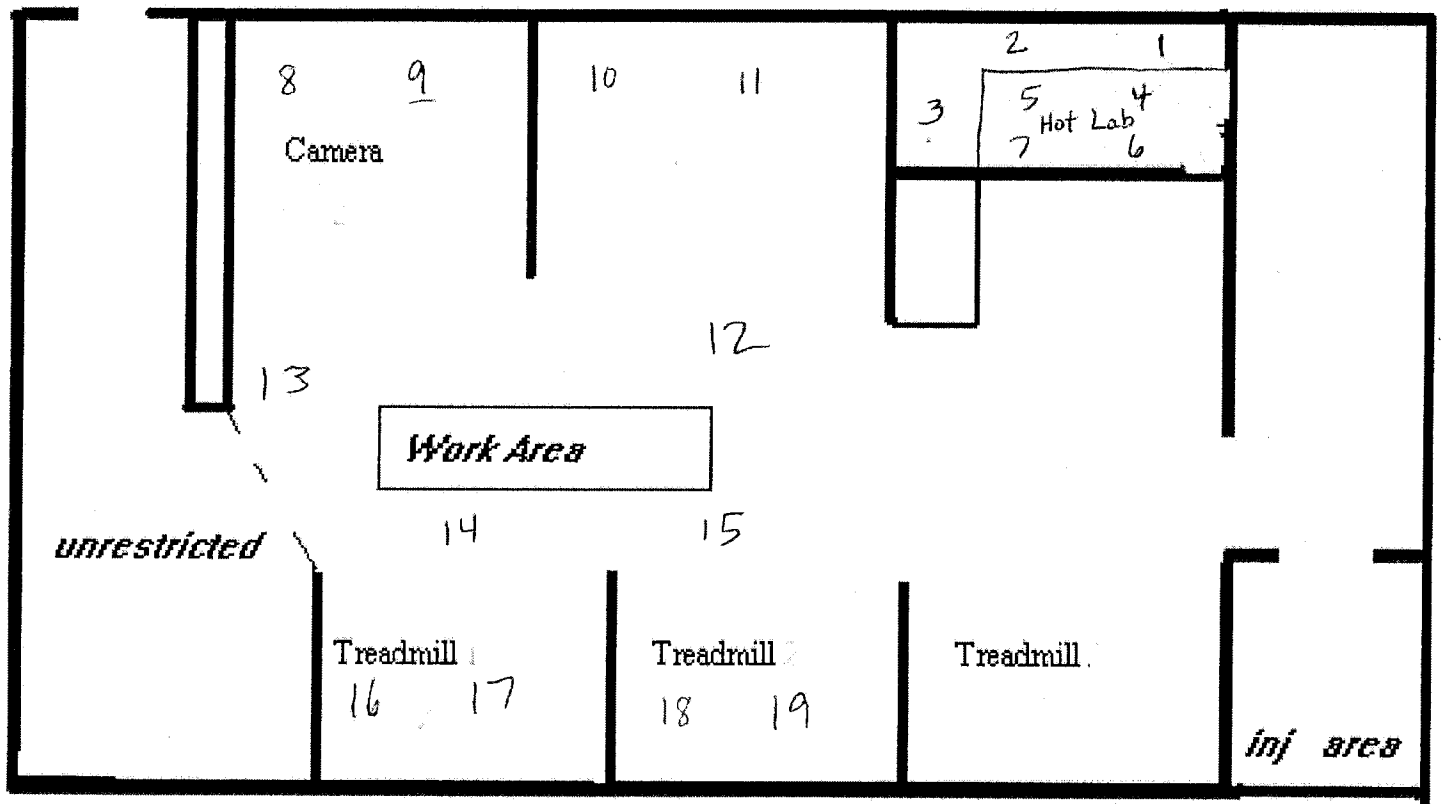
Comment: The sources listed above were leak tested using a dry wipe technique and were found to have less than 0.005 uCi removable activity. The following Minimum Detectable Activities are based upon a background at the indicated value. Background was at or below these levels when the above tests were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

Numbers refer to wipe sample locations



## CERTIFICATE OF DISPOSITION OF MATERIALS

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING NRC FORM 314.

Subpart E of 10 CFR Part 20 establishes the radiological criteria for license terminations/decommissioning of facilities licensed under 10 CFR Parts 30, 40, 50, 60, 61, 70, and 72, as well as other facilities subject to the Commission's jurisdiction under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

### INSTRUCTIONS

#### Section B, Item 2.

Licensees should describe the specific radioactive material transfer actions. If radioactive wastes were generated in terminating this license, the licensee should describe the disposal actions taken, including the disposition of low-level radioactive waste, mixed waste, greater-than-Class-C waste, and sealed sources.

#### Section B, Item 2.a.

The information provided concerning the transfer of radioactive material to another licensee should specify the date of the transfer, the name of the licensee recipient, an individual contact name and telephone number for the licensee recipient, and the recipient's NRC or Agreement State license number.

#### Section B, Item 2.b.

For disposal of radioactive materials, licensees should describe the specific disposal method or procedure (e.g., decay-in-storage). For those cases when radioactive materials are disposed of by a licensed disposal site or by a waste contractor, the licensee should specify the name, address, and telephone number of the licensed disposal site operator or waste contractor.

#### Section B, Item 2.c.

"Residual radioactivity," as defined in 10 CFR 20.1003, means radioactivity in 'areas' (structures, materials, soils, etc.) remaining as a result of activities (licensed and unlicensed) under the licensee's control from sources used by the licensee, excluding background radiation. ALARA is defined in 10 CFR 20.1003.

### FILE CERTIFICATES AS FOLLOWS:

#### IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND CERTIFICATES TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA,  
MISSOURI, OHIO, OR WISCONSIN, SEND CERTIFICATES  
TO:

MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

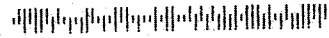
#### IF YOU ARE LOCATED IN:

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA,  
COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA,  
MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW  
MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON,  
PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS,  
UTAH, WASHINGTON, OR WYOMING, SEND CERTIFICATES TO:

MATERIAL RADIATION PROTECTION SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION IV  
1600 E. LAMAR BOULEVARD  
ARLINGTON, TX 76011-4511



2525 University, Suite 300  
Muncie, IN 47303-3400



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Materials Licensing Section  
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Muncie, IN 47302-4352