

Cardinal Health
Nuclear Pharmacy Services
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Dublin, OH 43017
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cardinalhealth.com

July 18, 2008

Sandy F. Frazier
U.S. Nuclear Regulatory Commission
Region III – Division of Nuclear Materials Safety
2443 Warrenville Rd, Suite 210
Lisle, IL 60532-4352

RE: Amendment Request for License #34-29200-01MD, Control # 317201, Cardinal Health,
Glastonbury, CT.

Ms. Frazier,

As per the phone conversation between Ms. Hueter and Mr. Regits, and as follow-up to the letter dated May 22, 2008, Cardinal Health, Nuclear Pharmacy Services (Cardinal Health), is submitting a revised decommission report. Please amend the above referenced license to release for unrestricted use the facility located at 628 Hebron Ave., Bldg. 4, Glastonbury, CT 06033. The facility has been cleaned and all sources of radioactive materials were removed from the area prior to the commencement of decommission surveys. Please see the attached report.

Please contact me at 614.757.3147 with any questions regarding this request.

Sincerely,

A handwritten signature in black ink, appearing to read "Willie Regits".

Willie Regits, Ph.D.
Director, Health Physics
Nuclear Pharmacy Services

/cw

CC: Matthew Svejck, RSO, Loc. 13
License File 13(3)

Encl: Restricted Area Decommissioning Report

Facility and Operations

The nuclear pharmacy licensed by the NRC resided at the location listed below. Use of radioactive materials was conducted under the license referenced below.

Pharmacy Location: 628 Hebron Rd
Glastonbury, CT 06033

Radioactive Materials License: 34-29200-01MD

Sources of Radiation

The information presented below addresses the requirements presented by your office in 10 CFR 30.36 and NUREG 1757.

1. Please see Attachment C for the *Certificate of Disposition of Radioactive Materials*.
2. The facility used radioactive materials for nuclear pharmacy operations and instrument calibrations or constancy checks. The facility ceased using the materials on April 7, 2008. Sealed sources were transferred to another facility on the same RAM License, located at 131 Hartland St, East Hartford, CT 06108, prior to the decommissioning surveys. Radioactive waste was either decayed or transferred to a certified waste broker prior to the decommissioning surveys.
3. The table below lists all isotopes used at the facility over the span of the licensed activities, and includes the date of last use for each.

| Isotope | Date Last Used | Physical Form (S, G, L or Sealed) | Quantities (µCi, mCi or Ci) |
|----------------|----------------|--------------------------------------|--------------------------------|
| Barium-133 | 4/4/08 | Sealed | 115 µCi |
| Cesium-137 | 4/4/08 | Sealed | 150 µCi |
| Chromium-51 | 4/4/08 | L | 1 mCi |
| Cobalt-57 | 4/4/08 | Sealed | 9 nCi |
| Gallium-67 | 4/4/08 | L | 25 mCi |
| Indium-111 | 4/4/08 | L | 20 mCi |
| Iodine-123 | 4/3/08 | S | 5 mCi |
| Iodine-125 | 4/14/05 | S | 1 mCi |
| Iodine-131 | 4/5/08 | L | 2 Ci |
| Molybdenum-99 | 4/5/08 | S | 75 Ci |
| Samarium-153 | 4/3/08 | L | 75 mCi |
| Technetium-99m | 4/5/08 | L | 60 Ci |
| Thallium-201 | 4/4/08 | L | 30 mCi |
| Xenon-133 | 4/4/08 | G | 2 Ci |
| Yttrium-90 | 2/19/08 | L | 50 mCi |

There have been no major radiological spills of any licensed material (e.g., greater than 100 mCi of Tc-99m or 1 mCi of I-131) requiring assistance in clean-up and monitoring from persons other than the user.

During the life of the license, no sealed sources have been determined to be leaking.

Surveys and Monitoring

Surveys were conducted in both the restricted and unrestricted areas. All surfaces were surveyed for contamination in the restricted areas. Wipe tests for removable contamination were taken over a 100 cm² area every square meter in the restricted areas. In the unrestricted area, wipes and contamination surveys were taken on a larger grid and in areas of most probability for finding contamination (e.g., door handles, walkways from the restricted areas, etc.). The locations are identified on the diagram in Attachment A.

Contamination surveys were taken with the instrument listed below. Wipes were taken dry, unless otherwise indicated, with absorbent paper. Each wipe was counted on the analytical detector listed below. Operating specifications, efficiencies, and minimum detectable activities are also provided below.

| EQUIPMENT | | |
|----------------|--|------------------------------|
| Surveys | Make and Model of Survey Meter | Ludlum 14C |
| | Serial Number | 168130 |
| | Last Calibration Date | 2/6/2008 |
| | Background | 0.03 mR/hr or 50 cpm (44-38) |
| | Make and Model Number of Probe | Ludlum 44-38 |
| Wipes | Make and Model Number | Spectrum Techniques UCS-20 |
| | Window (should be open, this is usually 20 to 400 keV) | 20-600 |
| | Efficiency of Well Counter (for I-131 or Ba-133 open window) | 92% |
| | Date of Efficiency | 5/1/2008 |
| | Region of Interest (should be the same as for efficiency) | 20-600 |
| | Count Time | 1 minute |
| | Background | 85 cpm |
| | MDA (must be <200 dpm) | 47 dpm |

Please see Attachment A for the impacted area map with wipe test locations indicated.

Please see Attachment B for the results of the wipe test survey of the impacted area.

A reference background was established for the portable survey meter in the non-impacted area, where there is similar construction to the materials encountered the impacted area. This was determined to be 30 μ R/hr for the facility.

Waste and RAM Disposition

A search for radioactive materials and radioactive waste was performed, resulting in none found. All materials were transferred to another licensee prior to the survey.

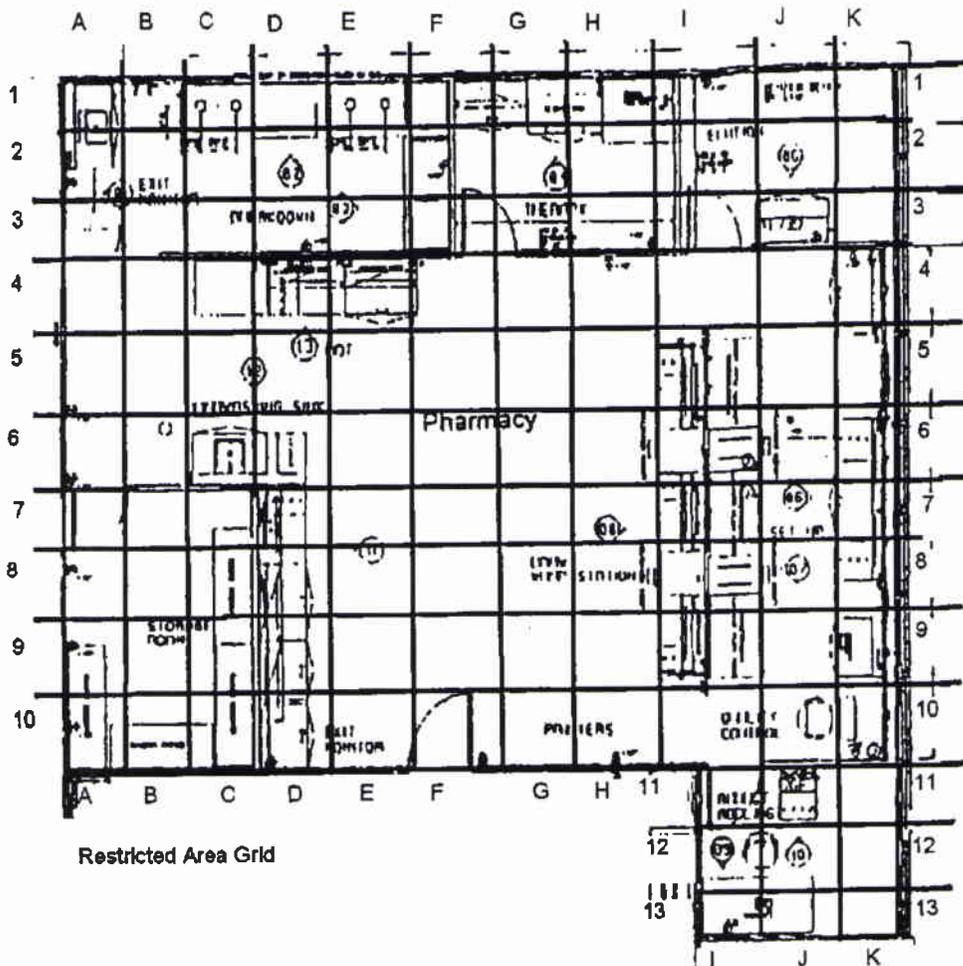
During the life of the license, no underground piping or sink/sewer piping was used for disposal of radioactive materials (*excluding excreta*).

Please see Attachment C for a copy the Certificate of Disposition of Radioactive Materials and Surveyor Certification.

Please see Attachment D for a copy of the packing list showing receipt of sealed sources by an authorized licensee.

ATTACHMENT A

Survey Map



ATTACHMENT B

Wipe Test Surveys Results

Unrestricted Area Wipes

MCA Serial Number: UCS-20
 Efficiency Date: 05/01/08
 Window: 20-600
 Efficiency: 92.00% c/d for Ba-133
 Count time (minutes): 1.0 minute
 Background (cpm): 102 cpm
 MDA (dpm): 51 dpm

0.05 mrem or 50 cpm

| Area/Room (File) | Location (ID/Type) | Area | Wipe (gross cpm) | Wipe (net cpm) | Wipe (dpm) | STATUS |
|------------------|--------------------|-------|------------------|----------------|------------|--------|
| Office | O1 | Floor | 50 | 86 | | OK |
| Office | O2 | Floor | 50 | 86 | | OK |
| Office | O3 | Floor | 50 | 86 | | OK |
| Office | O4 | Floor | 50 | 86 | | OK |
| Office | O5 | Floor | 50 | 86 | | OK |
| Office | O6 | Floor | 50 | 86 | | OK |
| Conf. | C1 | Floor | 50 | 84 | | OK |
| Conf. | C2 | Floor | 50 | 84 | | OK |
| Conf. | C3 | Floor | 50 | 84 | | OK |
| Hall | H1 | Floor | 50 | 82 | | OK |
| Hall | H2 | Floor | 50 | 82 | | OK |
| Hall | H3 | Floor | 50 | 82 | | OK |
| Vestibule | V1 | Floor | 50 | 82 | | OK |
| Vestibule | V2 | Floor | 50 | 82 | | OK |
| Lunch | LR1 | Floor | 50 | 87 | | OK |
| Lunch | LR2 | Floor | 50 | 87 | | OK |
| Hallway | HW | Floor | 50 | 87 | | OK |
| Men's Room | MR | Floor | 50 | 82 | | OK |
| Ladies Room | WR | Floor | 50 | 82 | | OK |
| Manager | M1 | Floor | 50 | 87 | | OK |
| Supply | S1 | Floor | 50 | 87 | | OK |
| Supply | S2 | Floor | 50 | 87 | | OK |
| Supply | S3 | Floor | 50 | 87 | | OK |

Restricted Area Wipes

MCA Serial Number: UCS-20
 Efficiency Date: 05/01/08
 Window: 20-600
 Efficiency: 92.00% c/d for Ba-133
 Count time (minutes): 1.0 minute
 Background (cpm): 75 cpm
 MDA (dpm): 44 dpm

| Area | Location | Area | Wipe | Wipe | Wipe | Status |
|---------------|----------|--------|-------|-------|-------|--------|
| Number | Surveyed | Survey | (cpm) | (dpm) | (dpm) | |
| Drawing Hoods | I5 | Wall | 50 | 85 | | OK |
| Drawing Hoods | I7 | Wall | 50 | 85 | | OK |
| Drawing Hoods | I9 | Wall | 50 | 85 | | OK |
| Blood Room | I11 | Floor | 50 | 86 | | OK |
| Blood Room | I12 | Floor | 50 | 86 | | OK |
| Blood Room | I13 | Floor | 50 | 86 | | OK |
| Blood Room | J11 | Floor | 50 | 86 | | OK |
| Blood Room | J12 | Floor | 50 | 86 | | OK |
| Blood Room | J13 | Floor | 50 | 86 | | OK |
| Blood Room | K11 | Floor | 50 | 83 | | OK |
| Blood Room | K12 | Floor | 50 | 83 | | OK |
| Blood Room | K13 | Floor | 50 | 83 | | OK |
| Storage | A7 | Floor | 50 | 102 | | OK |
| Storage | B7 | Floor | 50 | 102 | | OK |
| Storage | C7 | Floor | 50 | 102 | | OK |
| Storage | A8 | Floor | 50 | 102 | | OK |
| Storage | B8 | Floor | 50 | 102 | | OK |
| Storage | C8 | Floor | 50 | 102 | | OK |
| Storage | A9 | Floor | 50 | 79 | | OK |
| Storage | B9 | Floor | 50 | 79 | | OK |
| Storage | C9 | Floor | 50 | 79 | | OK |
| Storage | A10 | Floor | 50 | 79 | | OK |
| Storage | B10 | Floor | 50 | 79 | | OK |
| Storage | C10 | Floor | 50 | 79 | | OK |
| Gen. Room | I3 | Floor | 50 | 74 | | OK |
| Gen. Room | I2 | Floor | 50 | 74 | | OK |
| Gen. Room | I1 | Floor | 50 | 74 | | OK |
| Gen. Room | J2 | Floor | 50 | 74 | | OK |
| Gen. Room | J1 | Floor | 50 | 74 | | OK |
| Gen. Room | K3 | Floor | 50 | 74 | | OK |
| Gen. Room | K2 | Floor | 50 | 74 | | OK |
| Gen. Room | K1 | Floor | 50 | 74 | | OK |
| Waste | A10 | Floor | 50 | 86 | | OK |
| Waste | A2 | Floor | 50 | 86 | | OK |
| Waste | A3 | Floor | 50 | 86 | | OK |
| Waste | B10 | Floor | 50 | 86 | | OK |
| Waste | B2 | Floor | 50 | 86 | | OK |
| Waste | B3 | Floor | 50 | 86 | | OK |
| Waste | C10 | Floor | 50 | 86 | | OK |
| Waste | C2 | Floor | 50 | 86 | | OK |
| Waste | C3 | Floor | 50 | 86 | | OK |
| Waste | D1 | Floor | 50 | 86 | | OK |
| Waste | D2 | Floor | 50 | 86 | | OK |

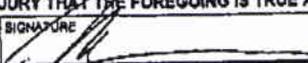
| Area or Lab | Location | Area | Area | Area | Area | Status |
|--------------|-----------|-------|------|------|------|--------|
| | | | 50 | 86 | | |
| Waste | D3 | Floor | 50 | 86 | | OK |
| Waste | E1 | Floor | 50 | 86 | | OK |
| Waste | E2 | Floor | 50 | 86 | | OK |
| Waste | E3 | Floor | 50 | 86 | | OK |
| Iodine | F3 | Floor | 50 | 87 | | OK |
| Iodine | F2 | Floor | 50 | 87 | | OK |
| Iodine | F1 | Floor | 50 | 87 | | OK |
| Iodine | G3 | Floor | 50 | 87 | | OK |
| Iodine | G2 | Floor | 50 | 87 | | OK |
| Iodine | G1 | Floor | 50 | 87 | | OK |
| Iodine | H3 | Floor | 50 | 77 | | OK |
| Iodine | H2 | Floor | 50 | 77 | | OK |
| Iodine | H1 | Floor | 50 | 77 | | OK |
| Iodine | I3 | Floor | 50 | 77 | | OK |
| Iodine | I2 | Floor | 50 | 77 | | OK |
| Iodine | I1 | Floor | 50 | 77 | | OK |
| Inside Stack | S1 | Stack | 50 | 66 | | OK |
| Outer Stack | S2 | Stack | 50 | 66 | | OK |
| Lab | I4 TO K10 | Floor | 50 | 88 | | OK |
| Lab | F4 TO H10 | Floor | 50 | 101 | | OK |
| Lab | D4 TO E10 | Floor | 50 | 110 | | OK |
| Lab | A4 TO C6 | Floor | 50 | 93 | | OK |

ATTACHMENT C

**· Certificate of Disposition of Materials
Surveyor Certification**

04/17/2016 18:28 FAX

002/003

| | | | | | |
|--|--|---|-------------------------|--|--|
| NRC FORM 314 (7-2001) 10 CFR 30.38(N)(1); 40.420(N)(1); 70.3802(N)(1); and 70.840(X)(1) | | U.S. NUCLEAR REGULATORY COMMISSION | | APPROVED BY OMB: NO. 3160-0028 EXPIRES: 07/31/2004 | |
| CERTIFICATE OF DISPOSITION OF MATERIALS | | | | Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submission is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimates to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to RM@nrc.gov , and to the Desk Officer, Office of Information and Regulatory Affairs, NE08-10402, (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 Cardinal Health 628 Hebron Ave, Bldg. 4, Glastonbury, CT 06033 | | LICENSE NUMBER 34-29200-01MD | DOCKET NUMBER 317201 | | |
| | | LICENSE EXPIRATION DATE August 31, 2011 | | | |
| A. LICENSE STATUS (Check the appropriate box) <input type="checkbox"/> This license has expired. <input type="checkbox"/> 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: | | | | | |
| <input type="checkbox"/> 1. No radioactive materials have ever been procured or possessed by the licensee under this license. | | | | | |
| <input checked="" type="checkbox"/> 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: | | | | | |
| <input checked="" type="checkbox"/> a. Transfer of radioactive materials to the licensee listed below: | | | | | |
| <input checked="" type="checkbox"/> b. Disposal of radioactive materials: | | | | | |
| <input checked="" type="checkbox"/> 1. Directly by the licensee: | | | | | |
| <input type="checkbox"/> 2. By licensed disposal site: | | | | | |
| <input type="checkbox"/> 3. By waste contractor: | | | | | |
| <input checked="" type="checkbox"/> 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 | | | | | |
| <input checked="" type="checkbox"/> 1. A radiation survey was conducted by the licensee. The survey confirms: | | | | | |
| <input checked="" type="checkbox"/> a. the absence of licensed radioactive materials | | | | | |
| <input checked="" type="checkbox"/> b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA. | | | | | |
| <input checked="" type="checkbox"/> 2. A copy of the radiation survey results: | | | | | |
| <input checked="" type="checkbox"/> a. is attached; or <input type="checkbox"/> b. is not attached (Provide explanation); or <input type="checkbox"/> c. was forwarded to NRC on: _____ Date | | | | | |
| <input type="checkbox"/> 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and | | | | | |
| <input type="checkbox"/> a. The results of the latest leak test are attached; and/or <input type="checkbox"/> b. No leaking sources have ever been identified. | | | | | |
| The person to be contacted regarding the information provided on this form: | | | | | |
| NAME Matthew J. Svejk | | TITLE R.Ph. PRSO | | TELEPHONE (include Area Code) 860-291-9027 | E-MAIL ADDRESS matthew.svejk@Cardinal.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 Matthew J. Svejk R.Ph. PRSO | | SIGNATURE  | | DATE 5/20/08 | |
| 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. | | | | | |

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003/003

Surveyor Certification**Surveyor: Matthew J. Svejik**R.Ph., PRSO
Authorized User, License No. 8748
Cardinal Health
Nuclear Pharmacy Services**Survey Location:** 628 Hebron Ave. Bldg.4 Glastonbury, CT 06033**Survey Date:** 5/13/08-5/15/08**Certification Statements:**

1. All non-exempt radioactive material and waste was removed from the facility prior to performing the decommission surveys.
2. A gross search for radioactive material was performed and no material was present.
3. The background radiation levels measured at several locations in the non-impacted area of the facility measured 0.03 mR/hr, therefore the readings listed as "Survey gross mR/h" in the closeout survey data form are background at all locations measured in the impacted area of the facility.
4. The wipe test results on the Closeout Survey data sheet are shown in dpm per 100 cm². All wipe measurement results were less than the MDA and less than 200 dpm per 100 cm².

I certify the above data and statements to be true.

Print:

Matthew J. Svejik

Sign:



Date:

5/20/08

ATTACHMENT D

SEALED SOURCE TRANSFER LOG

DATE OF TRANSFER: 4/7/08

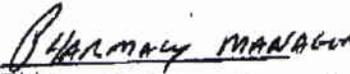
TRANSFER FROM: Cardinal Health NPS Location #13
628 Hebron Ave. Bldg 4 Glastonbury, CT 06033
License # 34-29200-01MD

TRANSFER TO: Cardinal Health NPS Location #13
131 Hartland St. East Hartford, CT 06108
License #34-29200-01MD

| Nuclide | Type | Serial Number | Assay Activity | Assay Date | Current Activity (uCi) | Leak Test Date | Leak Test Results* (Pass/Fail) |
|---------|-----------|---------------|----------------|------------|------------------------|----------------|--------------------------------|
| Ba-133 | Cartridge | 408-8-5 | 0.54uCi | 10/1/92 | 0.1915 | Exempt | N/A |
| Ba-133 | Vial | S358018-017 | 271uCi | 10/26/94 | 110.82 | 5/23/08 | Pass |
| Ba-133 | Rod | S1389021-14 | 0.11uCi | 12/8/95 | 0.0489 | Exempt | N/A |
| Ba-133 | Rod | 780-39-43 | 5.15uCi | 8/1/03 | 3.756 | Exempt | N/A |
| Co-57 | Rod | 1103-58-7 | 0.11uCi | 9/1/05 | 0.008 | Exempt | N/A |
| Cs-137 | Vial | S356024-020 | 212uCi | 1/18/93 | 148.86 | 5/23/08 | Pass |
| Cs-137 | Rod | Nes-139s-032 | 0.11uCi | 3/28/85 | 0.0622 | Exempt | N/A |

*Pass=Removable contamination less than 0.005 uCi.
All of the RAM was disposed of separately. Certificates of Receipts for the transfer of RAM are maintained at the new facility.


Signature **PETER SPOSATO**


Title **R PH, BCNP**