Sibley Memorial Hospital
5255 Loughboro Road, N.W.
Washington, D.C. 20016-2695
202-537-4000 T

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SIBLEY MEMORIAL HOSPITAL
JOHNS HOPKINS MEDICINE

November 12, 2012

Licensing Assistant Section
Nuclear Materials Safety Branch
U.S. Nuclear Regulatory Commission
Region 1
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406

RE: License Amendment Request
Sibley Memorial Hospital
NRC-08-07398-03 03014754

Dear License Reviewer:

We are requesting the release for unrestricted use of the areas previously utilized as the Brachytherapy Storage Room (storage location of the HDR Afterloader and brachytherapy sealed sources) and Vault 2 (location where HDR Afterloader cases were performed) at Sibley Memorial Hospital located at 5255 Loughboro Road NW, Washington DC 20016. In accordance with the guidelines established by the NRC, dated December 1975, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use" and NUREG-1757 Vol. 1, Rev. 2 – Consolidated Decommissioning Guidance, we herein submit the final survey of these areas. This survey was performed by Ms. Michele Loscocco of Krueger-Gilbert Health Physics, Inc. on November 5, 2012. (Refer to Enclosure 1) Documentation of the most recent leak test is also enclosed. (Refer to Enclosure 2)

All radioactive material, including the HDR Afterloader and brachytherapy sealed sources were moved to the new Radiation Oncology Brachytherapy Storage Room located at the facility on November 5, 2012 by hospital staff. (Refer to Enclosure 3) The new storage room was added to the above referenced license per Amendment No. 38.

We request that a representative from the NRC perform the final closeout at the earliest possible convenience or that the areas be released based on the enclosed survey. Once the final closeout has been conducted and the areas released, it is also requested that these areas (Radiation Oncology Department spaces including Brachytherapy Storage Room and Vault 2) be removed from radioactive materials license NRC-08-07398-03. The building will be demolished upon receipt of final approval. Demolition is currently scheduled for December 1, 2012. Therefore, it is requested that the final release approval be expedited.

If you have any questions regarding this request, please contact the undersigned or Ms. Michele Loscocco of Krueger-Gilbert Health Physics, Inc. at (410) 692-9806.

Sincerely,

Jordie Keck, MS, DABR
Radiation Safety Officer

Enclosure 1 – Survey Results for Brachytherapy Storage Room
Enclosure 2 – Leak test results for HDR Afterloader Source
Enclosure 3 – Brachytherapy Source Inventory

Enclosure 1 - SURVEY RESULTS for Brachytherapy Storage Room

Facility: Sibley Memorial Hospital
Address: 5255 Loughboro Road, N.W.
Washington, D.C. 20016-2695

Survey date: November 5, 2012

Radiation exposure levels were monitored with a Ludlum 14C, #206513 survey meter last calibrated on September 5, 2012. Areas surveyed and results are indicated on the enclosed diagrams.

Wipe tests were conducted on 100 cm^2 areas using absorbent paper moistened with alcohol.
Wipe testing and results are indicated on the enclosed diagrams.

Instrument: Ludlum Scaler Model 2200/Ludlum NaI Well Model 243

Detector Efficiency: Cs-137 (662 keV) = 12.0%
Ba-133 (356 keV) = 22.3%
Co-57 (122 keV) = 69.9%

The minimal detectable activity (MDA) was determined using a worst case efficiency of 12.0% and background + 3σ.

MDA = 6.31 x 10-5 uCi or 118.5 dpm

All sample results were less than the minimal detectable activity.
Net Wipe test results were also less than 200 dpm/100 cm2.

SURVEY RESULTS
Brachytherapy Storage Room

Survey Date:	November 5, 2012
Instrument:	Ludlum 14C, #206513 survey meter
Calibration Date:	September 5, 2012
Background:	150 - 200 cpm

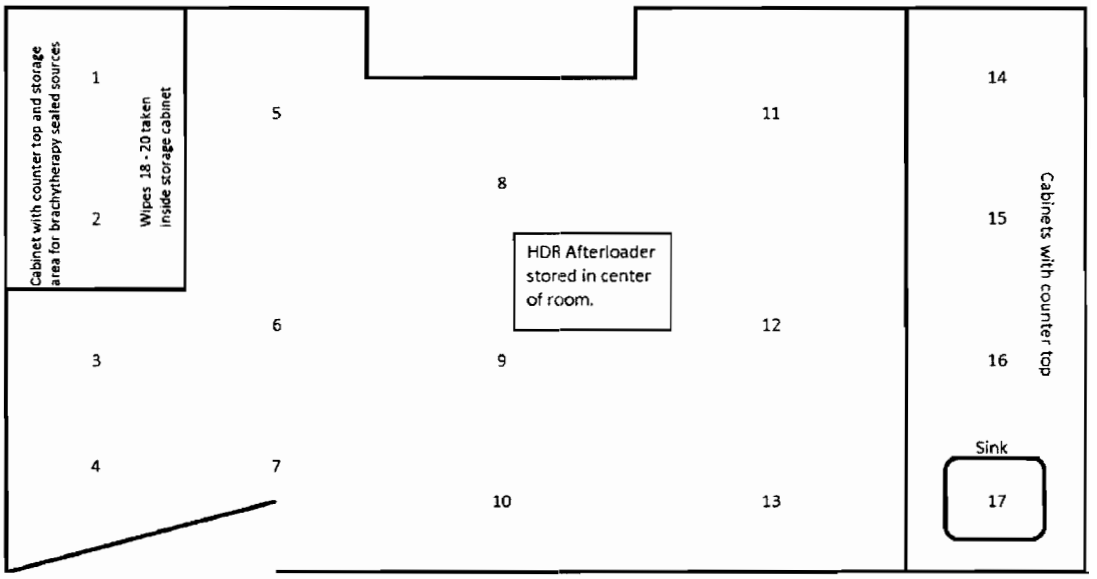
Sample Location	Survey Meter Reading
1 – 5	200 cpm
6 – 10	200 cpm
11 – 15	200 cpm
16 – 20	200 cpm

WIPE TEST RESULTS
Brachytherapy Storage Room

Survey Date:	November 5, 2012
Instrument:	Ludlum Scaler Model 2200/Ludlum NaI Well Model 243
Detector Efficiency:	Cs-137 (662 keV) = 12.0%
	Ba-133 (356 keV) = 49.7%
	Co-57 (122 keV) = 96.0%

Sample Location	Results (Net DPM)
1 – 5	<MDA
6 – 10	<MDA
11 – 15	<MDA
16 – 20	<MDA

Survey locations marked on room diagram.



BRACHYTHERAPY STORAGE ROOM

Certificate For Sealed Sources

Issue Date:	2012-08-15	(1)
Product Code:	REF 105002	
Serial Number:	SN D36E-2572	
Production Code:	LOT HDR080912	
Serial no. Transport Container:	2303C6	
Serial no. Check Cable:	N/A	
Certificate Number:	gSvtM xy8@M o++Yk K03k2 s3	

Source Specification

Reference Air Kerma Rate:	41.84 mGy h^{-1} +/- 5% at 1m	(2)
Measurement Reference Date:	2012-08-16 18:00 CET	(1)
Apparent Activity:	380 GBq (10.3 Ci) at measurement reference date.	(3,4)
Source Type:	MICROSELECTRON-HDR	
Capsule dimensions:	0.9 mm diameter, 4.5 mm length	
Source pellet dimensions:	0.6 mm diameter, 3.5 mm length	
Source pellet form:	Solid Iridium	
Radionuclide:	Ir-192	
Encapsulation:	single	
Capsule material:	stainless steel AISI 316L	
ISO Classification:	ISO/99/C6321 I	
Special form certificate number:	D/0070/S-96	

Quality Control

Laser Weld Visual Check:	Passed	
Source Capsule Integrity (15 N pull test):	Passed	
Leakage Test:	Passed	(5)
Surface Contamination test:	< 185 Bq (5 nCi)	(6)

The undersigned, authorized officer of QSA Global, Inc. certifies that this source complies with the requirements of ISO2919 and that all of the information given in this certificate is true and correct.

Quality Assurance 15Aug12

(1) Date Format yyyy-mm-dd.

(2) Confidence level of 99.7%.

(3) The apparent activity is determined by applying a conversion factor (0.110 mGy m^2, $^{-1}$GBq^{-1}) to the measured gamma radiation output of the sealed source determined with a calibrated instrument. The instrument is traceable to the National Institute of Standards & Technology. (NIST)

(4) The apparent activity is the Iridium-192 activity; other radionuclides not detectable.

(5) Leakage test method according to ISO9978 method Liquid nitrogen bubble test (6.2.1).

(6) Surface contamination test according to ISO9978 method Wet wipe test (5.3.1).

(7) The quality assurance system of QSA Global Inc. is certified by Lloyd's Register Quality Assurance (LRQA) according to ISO 9001 and ISO 13485.

QSA GLOBAL

40 North Avenue Burlington, MA 01803 1(781) 272-2000

Enclosure 2

Nucletron
Improving patient care

Source Return Document (USA) for Container type ADIC (Part No. 081.040-xx)

DO NOT REMOVE THIS DOCUMENT FROM THE TRANSPORT DRUM

Hospital name:	Sibley Memorial Hospital	Address:	5255 Loughboro Rd. NW.
City:	Washington DC	State/Country:	DC 20016 USA

Container serial no. (on top of lid):	Afterloader serial no.:	Source serial no. (on source tail):
2303C6	31511	D36E1653

Source type: ☒ mHDR V3 / V2 / Digital (0.9mm) ☐ mHDR Classic (1.1mm) ☐ mPDR V3 / V2 / Digital (0.9mm) ☐ mPDR Classic (1.1mm)

No.	Item (see Source Handling Procedure, part no. 090.387)		Nucletron Certified Source Handler	
1.	Are you Nucletron-certified for source exchanges?		☒ Pass	☐ Remark
2.	Dose rate above the source channel (without lid) should be lower than on the side of the container		☒ Pass	☐ Remark
3.	Source is locked (lever down) and source cable is undamaged		☒ Pass	☐ Remark
4.	A: Length of source cable extending from unload tube (Source is in channel 2 of the container)		≤ 480mm (0.9 mm source): 477	≤ 460mm (1.1 mm source):
	B: Source is in channel 1: push source to bottom of channel. Lock the source cable again (locking lever down)		☒ Pass	☐ Remark
5.	Source information label on container matches actual source		☒ Pass	☐ Remark
6.	Container lid is closed: both nuts fastened and lid locked		☒ Pass	☐ Remark
			≤ 20 mrem/h	or ≤ 200 µSv/h
7.	Surface dose rate of the hot spot on top of the transport drum		1.6	
8.	Surface dose rate of the hot spot on the side of the transport drum		10.0	
9.	Dose rate for the hot spot at 1 meter from the transport drum		0.3	
10.	Radioactive contamination on transport drum	≤ 0.4Bq/cm²	☒ Pass	☐ Remark
11.	Measurements within specification?		☒ Pass	☐ Remark
12.	Transport Index (TI)	0.1≤TI ≤ 0.6	0.3	
13.	Source activity		150.82 GBq	
14.	Labels are correctly placed and filled in (II-Yellow and address labels)		☒ Pass	☐ Remark
15.	Shipping documents are completed and signed		☒ Pass	☐ Remark
16.	Are there quality problems to be reported about: source, container(s), packaging, labeling, error code 227/228, etc.? If Yes, fill in the remark and attach the RMA label on the container and transport drum, see step 17.		☒ Pass	☐ Remark
17.	RMA label attached?		☒ No	☐ Yes
18.	Lid screwed tightly on to transport drum and red/white tamper inserted; source return document enclosed (tick 'Pass' if done immediately after completing this form)		☒ Pass	☐ Remark

Nucletron Certified Source Handler:	Signature:	Date (YYYY-MM-DD):
Rick Carfink		2012-Aug-27

Include the white original in the transport drum. For shipment authorization, fax or e-mail a copy to Nucletron: Fax no. (1)-410-312-4196 / e-mail: us_weeklyservicepackage@us.nucletron.com

Remarks:	Shipment Authorization for return shipment outside US & Canada (to be filled in by authorized Nucletron employee)	
Place a RMA label on the container and on the transport drum.	Name:	☐ Approved
	Signature:	☐ NO: DO NOT SHIP and call Nucletron (1)-800-234-2249
	Date:	

Fourth Quarter Sealed Source Inventory

On November 5, 2012 inventory of the sealed sources in the new Brachy room was done by the undersigned. All sealed sources were transferred from the old department in a locked safe with exception of the HDR source which was stored inside the nucletron microSelectron mHDR unit. The HDR unit had a 384 GBq (10.4 Ci) Ir-192 source, S/N D36E-2572, installed on August 27, 2012. The previous source, S/N D36E-1653 was shipped out September 24, 2012. All brachytherapy seeds were noted and accounted for. A total of 561 seeds were inventoried of which 520 were I-125 seeds and 41 were Cs-131 seeds. All seeds were kept in lead containers in the safe below the L-block. These seeds are kept under lock and key. The door to the brachy room is always kept locked. An area survey of the countertop, safe, floor, and storage room across for the brachy room revealed all areas to be < 50 cpm using the Ludlum 14 C survey meter, S/N 206513. Background measured 50 cpm.

Jordie Keck 11-12-12

Jordie Keck, M.S., DABR

Enclosure 3