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Office of Environmental Health and Safety

LM-12 Preclinical Science
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Radiation Safety
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August 18, 2017

Mr. Dennis Lawyer, Health Physicist
Licensing Assistance Team
U.S. Nuclear Regulatory Commission, Region 1
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

Amendment of Materials License: 08-03114-05
Docket Number: 03013627
Mail Control No. 599816 and 600182

Dear Mr. Lawyer:

This is in reference to your email dated July 19, 2017, requesting additional information supporting our June 7, 2017, request for an amendment and financial assurance for Nuclear Regulatory Commission (NRC) License No. 08-03114-05. For clarity, we will restate your questions in italics and provide our answers below.

1. In item 1 of your letter, you state that you wish to reduce the possession limit as indicated. For item C, you did not specify the total amount of material requested, only the amount per radionuclide. Additionally, the amount is at least twice the amount currently requested and does not appear to be a reduction. Please restate the amount of material you wish for item C.

As you correctly stated, item 1C. did request an increase in the activity per radionuclide. After further review, and with a potential increase in research activities and waste disposal considerations, we need to further increase the requested possession limit for Item C, as indicated in the table below:

Byproduct, Source, and/or special nuclear material	Chemical and/or physical form	Maximum amount to possess at one time
C. Source Material	C. Any	C. 500 microcuries per radionuclide and 1 millicurie total

2. A Certification of Financial Assurance Attachment A was submitted to match the amendment request. Please resubmit the Attachment A of the Certification of Financial Assurance for the total amount of Item C determined in the question above.

The revised Attachment A is included within.

3. *Prior to termination of a license, 10 CFR 30.35(g), 30.36(k)(4) and 30.51; 40.36(f), 40.42(k)(4) and 40.62; and 70.25(g), 70.38(k)(4) and 70.51 require that you submit to the NRC certain records. 10 CFR 30.35 (g), 40.36(f), and 70.25(g) states that you must keep the records important to decommissioning in paragraph b. below until the area is released for unrestricted use. Since you are applying for release of the S-Level of the Lombardi Cancer Center, 3800 Reservoir Road, NW., Washington, D.C., please submit the records concerning the S-Level of the Lombardi Cancer Center, or explain why such records are not applicable.*

a. For unsealed materials with half-lives greater than 120 days, records for disposal made pursuant to 10 CFR 20.2002 (alternate disposal procedures, including burial authorized prior to January 28, 1981), 20.2003 (disposals to the sanitary sewerage system), 20.2004 (incineration of wastes), 20.2005 (disposal of specific wastes including liquid scintillation cocktail and animal tissue), and 20.2103(b)(4), evaluations of effluent releases.

For clarification, the Lombardi Cancer Center (LCC) is located on the Georgetown University campus. One floor of the LCC was leased from MedStar Georgetown University Hospital for GU research.

Alternate Disposal Procedures (10 CFR 20.2002)

Not Applicable - A search of our NRC License records indicates that Georgetown University (GU) did not have approval for alternate waste disposal procedures. (*i.e.*, no on-site burials were performed).

Disposals to Sanitary Sewerage (10 CFR 20.2003)

Sanitary sewer disposal records prior to 1990 were not located. Between 1990 and 2008, laboratory sink disposal records were entered into our old Aston-Tate dBase, and since 2008, into our Environmental Health and Safety Assistant (EHSA) database. It should be noted that all laboratory sink disposals and radioactive waste records (including shipments and disposals) were co-mingled for both the Medical Center and Campus Research NRC Licenses. The Lombardi Cancer Center (LCC) was under the Medical Center License (08-01709-04) until June 30, 2000, and under the Campus Research License (current NRC License) since July 1, 2000.

All GU laboratory sink disposal data has been reported in the Radiation Safety (RS) Office Annual Reports to the Radiation Safety Committee which have been reviewed by the NRC during routine inspections. The RS Office Annual Report demonstrates that all sanitary sewer effluent releases are ALARA and less than ten percent of the allowable limits. Since we are only requesting to remove the S-Level of the LCC from our License all effluent release records should remain in our possession until License termination.

Incineration of Wastes (10 CFR 20.2004 and 10 CFR 20.2005)

The was no incinerator located in the S-Level of the LCC. There was no animal research using radioactive materials in the S-Level of the LCC. The liquid scintillation cocktail containing H-3 and C-14 with ≤ 0.05 microcurie/gram was shipped via a Waste Broker to approved waste processing and disposal facilities. Since we are only requesting to remove the S-Level of the LCC from our License all effluent release records should remain in our possession until License termination.

Evaluations of Effluent Releases (20.2103(b)(4))

See Disposals to Sanitary Sewerage (10 CFR 20.2003) above.

There was no facility for iodinations or tritiations located in the LCC. The GU air effluent releases or GU License possession limits were entered into the COMPLY code annually to demonstrate that GU was in compliance with the NESHAPS. These records have been reviewed by the NRC during the routine inspections. Since we are only requesting to remove the S-Level of the LCC from our License all effluent release records should remain in our possession until License termination.

b. Records important for decommissioning as described in 30.35(g), 40.36(f) and 70.25(g). Examples of such records include but are not limited to: records of contamination, identifying the radionuclides, quantities and concentrations; as-built drawings and modifications of structures and equipment in restricted areas and locations of inaccessible contamination such as buried pipes; a single list, updated at least every 2 years, of areas to which access is limited for the purpose of radiation protection (restricted areas); and records related to the provision of financial assurance.

1) Records of Spills when Contamination Remains

In the submitted Quality Assurance Project Plan (QAPP) for the Lombardi Cancer Center, on page 4, the first paragraph states:

“...Additionally, special surveys were performed whenever spills of radioactive material occurred. During spill post-decontamination surveys, lower walls and cabinet fronts were monitored, if necessary. Removable radioactive contamination above the prescribed limit ($^{100} \text{ dpm}/_{100} \text{ cm}^2$) was decontaminated for both routine and special surveys.”

To reiterate, there were no spills that resulted in contamination which could not be decontaminated below ($^{100} \text{ dpm}/_{100} \text{ cm}^2$).

2) As-Built Drawings of Structures in Restricted Areas

There were no restricted areas in S-Level LCC as defined in 10 CFR 20.

3) As-Built Drawings of Inaccessible Contamination such as Buried Pipes

In the submitted Final Status Survey (FSS) for the Lombardi Cancer Center, page eight states:

“The majority of the laboratories were relocated in November/December 1994 and April/May 1995. The remaining laboratories were used throughout the years until the final relocation in December 2014. Through the years some sinks/piping were replaced without notification. During these surveys all remaining sink traps were removed and tested. No removable contamination above $100 \text{ dpm}/_{100} \text{ cm}^2$ was detected on the sink traps.”

Of the long lived isotopes, only H-3 was approved for lab sink disposals, and it is not likely to plate out on piping surfaces. Since the traps did not have H-3 contamination, there would be no contamination present in the buried pipes.

4) The List of Restricted Areas

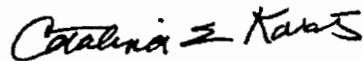
There were no restricted areas (as defined in 10 CFR 20) in S-Level LCC.

5) Records Related to the Provision of Financial Assurance

GU has submitted to the NRC a Decommissioning Funding Plan and Financial Assurance in the form of a trust. The bank (M&T) provides statements to NRC Region I.

I hope this response adequately addresses your questions. If you should need further clarification, please contact me at (202) 687-4712 or at kovatsc@georgetown.edu.

Sincerely,



Catalina E. Kovats
Radiation Safety Officer

Attachment A

Certificate of Financial Assurance

Item	Byproduct, source and/or special nuclear material	Chemical and/or physical form	Maximum amount that licensee may possess at any one time under this license
A.	Any byproduct material with atomic number 3 through 83	Any	200 millicuries per radionuclide and 15 curies total
B.	Any byproduct material with atomic number 84 through 98	Any	100 microcuries per radionuclide and 1 millicurie total
C.	Any Source Material	Any	500 microcuries per radionuclide and 1 millicurie total
D.	Any Special Nuclear Material	Any	1 microcurie
E.	Hydrogen-3	Any	5.5 curies
F.	Carbon-14	Any	1.5 curies

NONNEGOTIABLE