UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

November 16, 2021

Karen Sweeney, R.T.
Radiation Safety Officer
North Kansas City Hospital
2800 Clay Edwards Dr.
North Kansas City, MO 64116

Dear Ms. Sweeney:

We have reviewed the licensee's request dated August 25, 2021, to renew its U.S. Nuclear Regulatory Commission (NRC) Material License No. 24-18628-01 for North Kansas City Hospital. Based on our review of the information, we have identified that additional information is needed to proceed with the renewal process. Please refer to NUREG 1556, Volume 9, Revision 3, "Consolidated Guidance About Materials Licenses," which is accessible at https://nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v9/index.html for guidance when preparing your response.

In a signed by management and dated letter, please provide the following information by December 16, 2021:

1. Please provide a Delegation of Authority Letter/Memo signed by management and the Radiation Safety Officer (RSO).

2. Please confirm that David A. Feiock, M.D. is to be authorized for Title 10 of the *Code of Federal Regulations* (CFR) 31.11, 35.100, and 35.200 material. If you wish to authorize Dr. Feiock for use of 10 CFR 35.300 material, please provide Dr. Feiock's training and experience in accordance with 10 CFR 35.390 requirements.

3. Please resubmit legible diagrams (the diagrams received were not legible) and mark the direction of north for the following:

    - "Main Radiology-Full Floor Diagram"
    - "2nd Floor Nuclear Cardiology"
    - "Decay in Storage-Full Diagram"

4. Please provide details in the "Blow-up Nuclear Cardiology" diagram. Specifically, provide the scale/dimensions, describe adjacent areas including above and below.

5. Please resubmit diagrams of hot labs and provide details such as material receipt, work area, material storage, waste storage, sinks, etc.)

6. Please clarify information contained in your Positron Emitting Tomography (PET) Shielding evaluations dated May 30, 2013 and December 5, 2014:

   a. Please indicate the assumed radioisotope/s used in the shielding evaluations and the amount/s in mCi assumed to be administered to each patient.

   b. Please clarify that the controlled areas and uncontrolled areas as defined in your evaluations dated May 30, 2013 and December 5, 2014 are equivalent to restricted areas and unrestricted areas, respectively, in accordance with 10 CFR 20.1003 definitions.

   c. Please describe the shielding or administrative controls used in your hot labs to ensure the 10 CFR Part 20 dose limits are met when using PET material (you did not provide the dose evaluation for your hot labs).

   d. Confirm that the existing shielding material is lead and the thickness of lead in each wall is the value as recommended in your evaluations dated May 30, 2013 and December 5, 2014.

7. Please confirm that patients will be released in accordance with 10 CFR 35.75 after administration of 10 CFR 35.300 material.

   If you will have in-patient rooms (patients will be hospitalized after administration of 10 CFR 35.300), please provide a diagram of the in-patient rooms and adjacent areas/rooms indicating restricted and unrestricted areas, occupancy factors for all adjacent rooms, including above and below, distances between the source/patient and the adjacent rooms, and the type and thickness of the shielding material. Also, please provide an evaluation demonstrating that the dose levels in all directions from the source/patient in the adjacent rooms will not exceed 10 CFR Part 20 dose limits.

8. Please specify additional/specialized equipment you use to handle PET or 10 CFR 35.300 material.

9. Please provide the applicable commitment regarding Training:

   “We have developed and will implement and maintain written procedures for a program for training required under 10 CFR 19.12 for each group of workers, including (i) topics covered, (ii) qualifications of the instructors, (iii) method of training, (iv) method for assessing the success of the training, (v) initial training, and (vi) annual refresher training."

10. Please provide the applicable commitment/s regarding Radiation Monitoring Instruments:

    "Radiation monitoring instruments will be calibrated by a vendor who is licensed by the NRC or an Agreement State to perform instrument calibrations."

AND/OR

"We have developed and will implement and maintain written radiation survey meter calibration procedures in accordance with the requirements in 10 CFR 20.1501 and that meet the requirements of 10 CFR 35.61."

11. Please provide the applicable commitment regarding Safe Use of Unsealed Licensed Material:

    "We have developed and will implement and maintain written procedures for safe use of unsealed byproduct material that meet the requirements of 10 CFR 20.1101 and 10 CFR 20.1201."

In accordance with 10 CFR 2.390, a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from ADAMS, accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

Sincerely,

Magdalena R. Gryglak

Digitally signed by Magdalena R. Gryglak
Date: 2021.11.16 10:46:18 -06'00'

Magdalena R. Gryglak
Health Physicist
Materials Licensing Branch

License No. 24-18628-01
Docket No. 030-13966