U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 4

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 70 and 71, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	In accordance with letter dated February 16, 2018,	4. Expiration Date: September 30, 2021
1. PETNET Solutions, Inc.		5. Docket No.: 030-38156 Reference No.:
2. 810 Innovation Drive Knoxville, TN 37932	3. License No.: 41-32720-01 is amended in its entirety to read as follows:	

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license	9. Authorized use
A. Fluorine-18	A. Any	A. 20 curies total	A. (1) For production, possession, or handling of radiochemicals for transfer to persons authorized to receive the licensed material pursuant to the terms and conditions of a specific license issued by the U.S. Nuclear Regulatory Commission or an Agreement State. (2) For packaging and distribution of produced radiochemicals to persons authorized to receive licensed materials pursuant to the terms and conditions of a specific license issued by the U.S. Nuclear Regulatory Commission or an Agreement State. This shall not be distributed as a radiopharmaceutical or radioactive drug.

MATERIALS LICENSE SUPPLEMENTARY SHEET

License No. 41-32720-01
Amendment No. 4
Docket or Reference No. 030-38156

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license	9. Authorized use
B. Carbon-11	B. Any	B. 4 curies total	B. Same as Item 9.A. and calibration of the licensee's instruments.
C. Nitrogen-13	C. Any	C. 2 curies total	C. Same as Item 9.A.
D. Oxygen-15	D. Any	D. 2 curies total	D. Same as Item 9.A.
E. Hydrogen-3	E. Liquid	E. 5 millicuries total	E. For possession and storage incidental to radionuclide production.
F. Any byproduct material between Atomic Nos. 3 and 83 with exceptions	F. Incidentally activated products	F. 250 millicuries total	F. Same as Item 9.E.
G. Zinc-65	G. Incidentally activated products	G. 300 millicuries total	G. Same as Item 9.E.
H. Germanium-68	H. Sealed sources (IPL, Model GF-068-D, SM-068, disk source)	H. 15 microcuries per source and 50 microcuries total	H. Calibration and checking of the licensee's instruments.
I. Sodium-22	I. Sealed sources (IPL, Model RV-022, e-vial)	I. 250 microcuries per source and 1 millicurie total	I. Same as Item 9.H.
J. Cobalt-57	J. Sealed sources (IPL , Model RV-057-5M; Radqual, Model BM06, e-vial)	J. 6 millicuries per source and 10 millicuries total	J. Same as Item 9.H.
K. Cesium-137	K. Sealed sources (IPL, Model RV-137-200U; Radqual, Model BM06E-37)	K. 250 microcuries per source and 1 millicurie total	K. Same as Item 9.H.

CONDITIONS

10. Licensed material shall be used or stored only at the licensee's facilities located at 1345 West 16th Street, Indianapolis, Indiana, 46202.

MATERIALS LICENSE SUPPLEMENTARY SHEET	License No. 41-32720-01	Docket or Reference No. 030-38156
	Amendment No. 4	

11. The Radiation Safety Officer (RSO) for this license is Joel Readinger, R.Ph.

12. Licensed material shall only be used by, or under the supervision of:

Authorized User	Material and Use
Larry Beagle	All
Victor Calonico, R.Ph.	All
Virginia Coakley, R.Ph.	All
Lucas Fernandez	All
Heather Fry, R.Ph.	All
Rick Grigson, R.Ph.	All
Mickey Latham	All
Joel Readinger, R.Ph.	All
Tim Tuohy	All
Larry Weider, R.Ph.	All
Neil Xenias	All

13. This license does not authorize commercial distribution of licensed material pursuant to 10 CFR 32.72 or 10 CFR 32.74, to persons generally licensed pursuant to 10 CFR Part 31 or equivalent regulations of any Agreement State, or to persons exempt from licensing pursuant to 10 CFR 30.14 through 10 CFR 30.21 inclusive, or equivalent regulations of any Agreement State.

14. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State. In the absence of a registration certificate, sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months, or at such other intervals as specified.

MATERIALS LICENSE SUPPLEMENTARY SHEET	License No. 41-32720-01	Docket or Reference No. 030-38156
	Amendment No. 4	

B. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.

C. Sealed sources need not be tested if they contain only hydrogen 3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.

D. Sealed sources need not be tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

E. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcuries) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 microcuries) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.

F. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

G. Records of leak test results shall be kept in units of becquerels (microcuries) and shall be maintained for three years.

15. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.

MATERIALS LICENSE SUPPLEMENTARY SHEET	License No. 41-32720-01	Docket or Reference No. 030-38156
	Amendment No. 4	

16. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for three years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.

17. The licensee is authorized to hold radioactive material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash provided:

    A. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee.

    B. A record of each such disposal permitted under this license condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.

MATERIALS LICENSE SUPPLEMENTARY SHEET	License No. 41-32720-01	Docket or Reference No. 030-38156
	Amendment No. 4	

18. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. This license condition applies only to those procedures that are required to be submitted in accordance with the regulations. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated September 4, 2009 (with cover letter dated September 11, 2009) (ML092580322)
B. Letter dated February 17, 2010 (ML100540424)
C. Letter dated August 1, 2016 (ML16216A603)
D. Letter dated November 21, 2016 (ML16327A527)
E. Letter dated February 16, 2018 (ML18051B141)
F. Letter dated May 3, 2018 (ML18123A321)

FOR THE U. S. NUCLEAR REGULATORY COMMISSION

Date: MAY 08 2018

By: _____
Bryan A. Parker
Region III