

U.S. NUCLEAR REGULATORY COMMISSION

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, and 70, 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.

<p style="text-align: center;">Licensee</p> <p>1. MPI Research, Inc.</p> <p>2. 54943 North Main Street Mattawan, Michigan 49071</p>	<p>In accordance with application dated January 24, 2014 and letter dated July 3, 2014</p> <p>3. License number 21-11315-04</p> <p>4. Expiration date September 30, 2024</p> <p>5. Docket No. 030-38755</p>
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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
A. Any byproduct material with Atomic Numbers between 1-83, inclusive, with a half-life less than or equal to 120 days, except as specified below	A. Any	A. 1 curie per radionuclide with a total possession limit of 5 curies
B. Fluorine-18	B. Any	B. 10 curies
C. Carbon-11	C. Any	C. 5 curies
D. Nitrogen-13	D. Any	D. 1 curie
E. Oxygen-15	E. Any	E. 2 curies
F. Iodine-124	F. Any	F. 1 curie
G. Zirconium-89	G. Any	G. 2 curies
H. Any byproduct material with Atomic Numbers 3 – 83, inclusive (excluding Zinc-65)	H. Incidentally Activated Products	H. 200 millicuries
I. Zinc-65	I. Incidentally Activated Products	I. 300 millicuries
J. Cesium-137	J. Sealed Sources (Eckert & Ziegler Isotopes Products Model GF-137-D)	J. 1 millicurie
K. Any byproduct material with Atomic Numbers 3 – 83, inclusive (excluding Zinc-65)	K. Incidentally Activated Removable Components	K. 50 millicuries

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9. Authorized use:

- A. through G. (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 specific licenses issued by the Nuclear Regulatory Commission or Agreement States. This should not be distributed as a radiopharmaceutical or radioactive drug.
- H., I., and K. For possession and storage of byproduct materials incidental to radionuclide production.
- J. Calibration and checking of the licensee's instruments.

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 54943 North Main Street, Mattawan, Michigan.
11. The Radiation Safety Officer for this license is Richard Granberg.
12. Licensed material shall be used by, or under the supervision of, Marc Berridge, Ph.D., Scott Apana, Christina Carpenter Brown, and Destiny Weems.
13. This license does not authorize distribution pursuant to 32.72 or 32.74; to persons exempt from licensing; or to general licensees.
14. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by NRC under 10 CFR 32.210 or by an Agreement State.
- 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 NRC 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.
- C. Sealed sources need not be leak 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.

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- D. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie 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. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Lisle, Illinois 60532, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- E. Tests for leakage and/or contamination shall be performed by the licensee or other persons specifically licensed by the Commission or an Agreement State to perform such services. In addition, the licensee is authorized to collect leak test samples for analysis by persons specifically licensed by the Commission or an Agreement State to perform such services.
- F. Records of leak test results shall be kept in units of 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.
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 sources and/or devices received and possessed under the license.
17. The licensee is authorized to hold byproduct 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, byproduct material shall be surveyed at the container surface with the appropriate meter 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.
- B. A record of each 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.
18. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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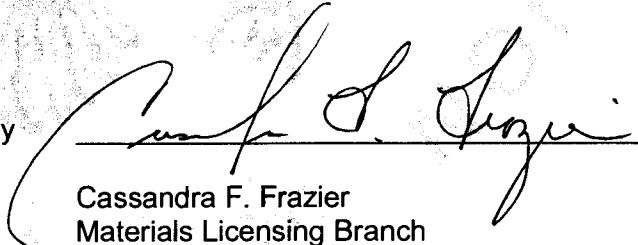
19. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated January 24, 2014; and

B. Letters dated February 6, 2014, April 21, 2014 (excluding the MediSmarts Radiation Monitoring System Operating Manual), July 3, 2014, August 29, 2014, and September 18, 2014.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date SEP 19 2014

By 
Cassandra F. Frazier
Materials Licensing Branch
Region III