

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 1. Alliance HealthCare Services, Inc. 2. 330 Harper Park Drive, Suite C Beckley, WV 25801		In accordance with letter dated September 16, 2019. 3. License number: 47-25570-01 is amended in its entirety to read as follows:	4. Expiration Date: September 30, 2021 5. Docket No.: 030-35774 Reference No.:
6. Byproduct, source, and/or special nuclear material A. Any byproduct material permitted by 10 CFR 35.200 B. Strontium-82 C. Strontium-85 D. Germanium-68	7. Chemical and/or physical form A. Any B. Any Except Sealed Sources C. Any Except Sealed Sources D. Sealed Sources	8. Maximum amount that licensee may possess at any one time under this license A. As Needed B. 200 millicuries total C. 1 curie total D. 50 millicuries total	9. Authorized use A. For use in imaging and localization studies permitted by 10 CFR 35.200. B. For decay in storage only in accordance with 10 CFR 35.92. C. For decay in storage only in accordance with 10 CFR 35.92. D. For storage only, limited to one year, incident to transfer in accordance with 10 CFR 30.41.

 CONDITIONS

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-25570-01

Amendment No. 21

Docket or Reference Number
030-35774

10. A. Licensed material listed in Subitem No. 6.A. incident to mobile nuclear medicine activities may be used or stored at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material, including areas of exclusive Federal jurisdiction within Agreement States.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the Federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

- B. Licensed material listed in Subitem Nos. 6.B and 6.C., limited to strontium waste generated incident to mobile nuclear medicine activities, may be stored at the licensee's facilities located at 525 S. Gould Street, Owasso, Michigan, for decay in storage in accordance with 10 CFR 35.92.
- C. Licensed material listed in Subitem No. 6.D., limited to germanium-68 sealed sources transferred from the licensee's mobile nuclear medicine vans, may be stored at the licensee's facilities located at 525 S. Gould Street, Owasso, Michigan, for up to one year pending transfer to an authorized recipient in accordance with 10 CFR 30.41.
11. Licensed material shall only be used by, or under the supervision of:

- A. Individuals permitted to work as an authorized user in accordance with 10 CFR 35.13 and 10 CFR 35.14.

- B. The following individuals are authorized users for the material and medical uses as indicated:

<u>Authorized User(M.D.,D.O.,etc.)</u>	<u>Material and Use</u>
David Abramowitz, M.D.	10 CFR 35.200
Irfan Ahmad, M.D.	10 CFR 35.200
Afzal Ahmed, M.D.	10 CFR 35.200
Mark J. Akers, M.D.	10 CFR 35.200
Paul D. Akers, M.D.	10 CFR 35.200
Paul J. Alfieri, M.D.	10 CFR 35.200

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

47-25570-01

Docket or Reference Number

030-35774

Amendment No. 21

Authorized User(M.D.,D.O.,etc.)Material and Use

Syed I. Ali, M.D.

10 CFR 35.200

Marsha Anderson, M.D.

10 CFR 35.200

Ibad U. Ansari, M.D.

10 CFR 35.200

James Baek, M.D.

10 CFR 35.200

Indraneel Banerji, M.D.

10 CFR 35.200

Marc R. Beck, M.D.

10 CFR 35.200

Martin Black, M.D.

10 CFR 35.200

Richard R. Black, D.O.

10 CFR 35.200

Rodger Blake, M.D.

10 CFR 35.200

Paul H. Blom, M.D.

10 CFR 35.200

Robert L. Bridges, M.D.

10 CFR 35.200

James M. Browne, M.D.

10 CFR 35.200

Douglas A. Bruns, D.O.

10 CFR 35.200

James Paul Carl, M.D.

10 CFR 35.200

Christopher Carrel, M.D.

10 CFR 35.200

Peter Chirico, M.D.

10 CFR 35.200

Jesse A. Cole, M.D.

10 CFR 35.200

Ricky J. Compton, M.D.

10 CFR 35.200

John Phillip Cox, D.O.

10 CFR 35.200

Robert J. Cure, M.D.

10 CFR 35.200

Michael T. Czuba, M.D.

10 CFR 35.200

Ryan Daily, M.D.

10 CFR 35.200

Corinne Daurdulian, M.D.

10 CFR 35.200

Edward Dentsman, M.D.

10 CFR 35.200

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-25570-01Docket or Reference Number
030-35774

Amendment No. 21

Authorized User(M.D.,D.O.,etc.)Material and Use

Vu Quoc Do, M.D.	10 CFR 35.200
Hans G. Dransfeld, M.D.	10 CFR 35.200
Joseph Dransfeld, M.D.	10 CFR 35.200
Nathaniel D. Dueker, M.D.	10 CFR 35.200
Adwoa Essel, M.D.	10 CFR 35.200
Joshua Dale Gibson, M.D.	10 CFR 35.200
Lee Corey Haikal, M.D.	10 CFR 35.200
Nathan R. Hatfield, M.D.	10 CFR 35.200
Mark R. Heitzman, M.D.	10 CFR 35.200
Prasanta K. Karak, M.D.	10 CFR 35.200
Kastytis C. Karvelis, M.D.	10 CFR 35.200
Stephen Joowhan Kim, M.D.	10 CFR 35.200
Philip Kohanski, M.D.	10 CFR 35.200
Michael V. Korona, Jr., M.D.	10 CFR 35.200
Gary W. Kravetz, M.D.	10 CFR 35.200
Adam Thomas Krompecher, M.D.	10 CFR 35.200
Benjamin Lange, M.D.	10 CFR 35.200
Christopher J. Leary, M.D.	10 CFR 35.200
Eric Lawrence Leonard, M.D.	10 CFR 35.200
Donald Lewis, M.D.	10 CFR 35.200
Edward J. Maas, M.D.	10 CFR 35.200
Colleen M. Madden, M.D.	10 CFR 35.200
Jane MaLoof, M.D.	10 CFR 35.200
Jack D. Markiewicz, M.D.	10 CFR 35.200

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-25570-01

Amendment No. 21

Docket or Reference Number
030-35774Authorized User(M.D.,D.O.,etc.)Material and Use

Matthew E. Maxwell, M.D.

10 CFR 35.200

Timothy J. McCue, M.D.

10 CFR 35.200

Chris W. McGary, M.D.

10 CFR 35.200

Russell Meyer, M.D.

10 CFR 35.200

Khalid A. Mian, M.D.

10 CFR 35.200

Thomas E. Miller, M.D.

10 CFR 35.200

Steve Min, D.O.

10 CFR 35.200

Daniel R. Mitchell, M.D.

10 CFR 35.200

Virginia Molleran, M.D.

10 CFR 35.200

Craig Moore, M.D.

10 CFR 35.200

Jaochim Mueller, M.D.

10 CFR 35.200

AppaRao Mukkamala, M.D.

10 CFR 35.200

Joshua A. Nepute, M.D.

10 CFR 35.200

Dana Olson, M.D.

10 CFR 35.200

Marlo M. Pagano, M.D.

10 CFR 35.200

Charles Nicholas Pappas, M.D.

10 CFR 35.200

Samir Parikh, M.D.

10 CFR 35.200

Bharat Patel, M.D.

10 CFR 35.200

Joseph Pekala, M.D.

10 CFR 35.200

Mark Peterson, M.D.

10 CFR 35.200

Grant D. Petty, M.D.

10 CFR 35.200

Krishna R. Pillai, M.D.

10 CFR 35.200

James Milton Reynolds, M.D.

10 CFR 35.200

Sean Reynolds, M.D.

10 CFR 35.200

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

47-25570-01

Docket or Reference Number

030-35774

Amendment No. 21

Authorized User(M.D.,D.O.,etc.)Material and Use

Michael E. Robertello, M.D.

10 CFR 35.200

Ruben Rock, M.D.

10 CFR 35.200

Daniel Adam Rodgers, M.D.

10 CFR 35.200

Colin Rose, M.D.

10 CFR 35.200

Heather Rose, M.D.

10 CFR 35.200

Ronald J. Rosenberg, M.D.

10 CFR 35.200

Robert M. Salman, M.D.

10 CFR 35.200

Paul Sanchirico, M.D.

10 CFR 35.200

Gerling Sauter, M.D.

10 CFR 35.200

Charles Seigler, M.D.

10 CFR 35.200

Marc A. Seltzer, M.D.

10 CFR 35.200

Mark Shaman, M.D.

10 CFR 35.200

Stanley M. Shapiro, M.D.

10 CFR 35.200

Paul W. Sheets, M.D.

10 CFR 35.200

Paul D. Shreve, M.D.

10 CFR 35.200

Ralph E. Shrider, M.D.

10 CFR 35.200

Alan Siegel, M.D.

10 CFR 35.200

Justin Sims, M.D.

10 CFR 35.200

Roshan Sivagnanam, M.D.

10 CFR 35.200

LeAnn Stidham, M.D.

10 CFR 35.200

Victoria A. Swegles, D.O.

10 CFR 35.200

Sanjay J. Talati, M.D.

10 CFR 35.200

Smari Thordarson, M.D.

10 CFR 35.200

Walter Parke Thrush, M.D.

10 CFR 35.200

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

47-25570-01

Docket or Reference Number

030-35774

Amendment No. 21

Authorized User(M.D.,D.O.,etc.)Material and Use

Boguslaw Uchman, M.D.

10 CFR 35.200

Matthew Waack, M.D.

10 CFR 35.200

Torin P. Walters, M.D.

10 CFR 35.200

James K. Watson, M.D.

10 CFR 35.200

Jonathan W. Weiss, M.D.

10 CFR 35.200

Ehab Hassan A. Youssef, MBBCH,
M.D.

10 CFR 35.200

12. The Radiation Safety Officer for this license is Kay Kassel, M.S., C.N.M.T.
13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
14. The licensee shall conduct a physical inventory every 6 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 3 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.
15. Sealed sources containing licensed material shall not be opened by the licensee, except as specifically authorized.
16. 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 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 6 months, or at such other intervals as specified.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-25570-01

Amendment No. 21

Docket or Reference Number
030-35774

- 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 3 years.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
47-25570-01

Amendment No. 21

Docket or Reference Number
030-35774

17. 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. Additionally, this license condition does not limit the licensee's ability to make changes to the radiation protection program as provided for in 10 CFR 35.26. 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 April 5, 2011 [ML110970462]
- B. Letter dated August 31, 2011 [ML112440261]
- C. Letter dated June 19, 2015 [ML15195A190]
- D. Letter dated October 13, 2015 [ML15292A554]
- E. Letter dated January 4, 2016 [ML16022A219]
- F. Letter dated January 12, 2016 [ML16022A229]
- G. Letter dated August 23, 2018 w/attachments [ML18242A382]

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

47-25570-01

Docket or Reference Number

030-35774

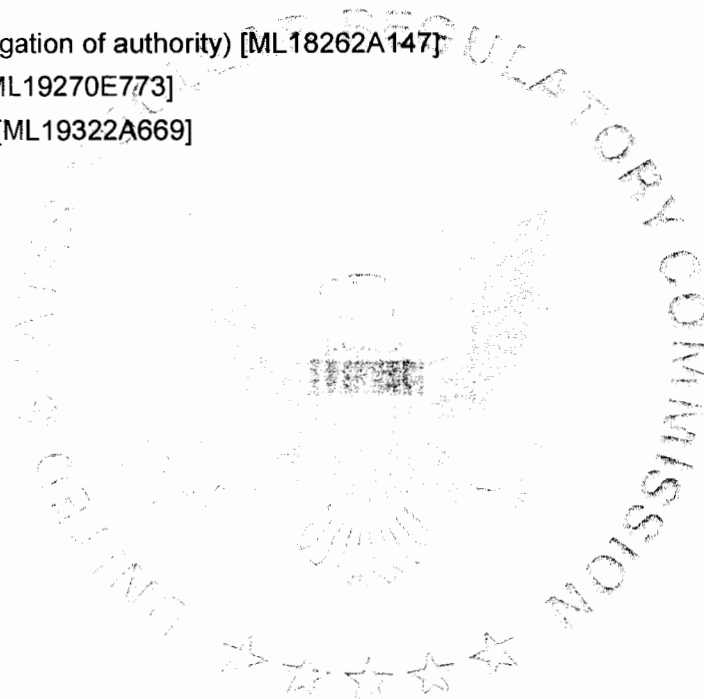
Amendment No. 21

continued

H. Letter dated August 31, 2018 (delegation of authority) [ML18262A147]

I. Letter dated September 16, 2019 [ML19270E773]

J. Letter received November 5, 2019 [ML19322A669]



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: December 16, 2019By: Penny Lanzisera
Region 1