



DEPARTMENT OF VETERANS AFFAIRS
Veterans Health Administration
National Health Physics Program (NHPP)
2200 Fort Roots Drive
North Little Rock, AR 72114

In Reply Refer To: 598/115HP/NLR

March 2, 2012

Kevin G. Null
Division of Nuclear Material Safety
Nuclear Regulatory Commission (NRC), Region III
2443 Warrenville Road, Suite 210
Lisle, Illinois 60532-4352

Re: NRC License 03-23853-01VA

Dear Mr. Null:

We are enclosing a memorandum from the Radiation Safety Officer for VA Palo Alto Health Care System, Palo Alto, California, that responds to a request for additional information based on a telephone conversation between Michael LaFranzo (NRC) and Thomas Huston (NHPP) on February 14, 2012. We appreciate your continued review of our request to release, for unrestricted use, Wings A and B of Building 2 at that facility.

If you have any questions, please contact Thomas E. Huston., Ph.D., at 501-257-1578, or you may reach me at 501-257-1571.

Sincerely,

A handwritten signature in cursive script, appearing to read "Thomas E. Huston for".

Gary E. Williams
Director, National Health Physics Program

RECEIVED MAR 05 2012

**DEPARTMENT OF
VETERANS AFFAIRS**

Memorandum

Date: March 1, 2012

From: Radiation Safety Officer, VA Palo Alto Health Care System, Palo Alto, California

Subj: VHA Permit Number 04-23242-01

To: Director, VHA National Health Physics Program (NHPP) (115HP/NLR)

1. This memorandum provides a response to information requested by the Nuclear Regulatory Commission (NRC) as documented in an e-mail from NHPP to NRC on February 22, 2012. The e-mail is included as Attachment 1 with three items needing a response.

2. Item 1. in the email states:

Description of the status of the areas (rooms) to be released in Wings A and B. NRC reviewer desires a room by room account describing if the room was released previously under the broad-scope permit authority and to what extent the room has undergone any remodeling (e.g., floors, walls, ceiling replaced/covered/painted, original surfaces removed, original ductwork removed) since being released by the permittee. Many rooms were released under the permittee's broad-scope authority years ago and converted to domiciles.

Our response:

All rooms in Wing A where radioactive materials were used had Vendor Decommissioning Surveys accomplished in June 2011 as documented in our earlier submittals. Only rooms A06 and A06B in Wing A were used up until the Vendor Decommissioning Surveys of June 2011. Other rooms in Wing A (A04, A05, A05A, A008, A009, A010) where radioactive materials were previously used have not seen the use of radioactive material since before June 2000 and were surveyed at that time. None of those earlier surveys showed any fixed or removable contamination; however, the surveys performed around June 2000 were not considered formal close-out surveys, since the rooms were not remodeled and continued to be used by research.

The rooms in Wing B, where radioactive materials were used, were remodeled in August 2000 after we performed final close-out surveys and released the rooms in July 2000 under our broad-scope license authority. All floors, counters, surfaces, sinks and hoods were surveyed, and no contamination was found. During the remodeling effort, all sink, hoods, counters, and cabinets were removed and all floor and wall surfaces were either removed, painted, or covered. The former research laboratory area was converted into a patient ward with new room configurations and new room designations. Table 1 in Attachment 2 shows the final routine survey dates of the rooms in Wing B, the date of the original close-out surveys, the new room designations, and the final vendor decommissioning surveys of June 2011. None of the numerous and extensive surveys have ever shown any fixed or removable contamination.

3. Item 2. in the email states:

Documentation (i.e., facility diagrams) of the sanitary sewer system to show the system as it was during times when radioactive materials were used as compared to current state (maybe there have been no changes) and indicating no holdup tanks. NRC reviewer would prefer to have some documentation of the sewer system as compared to verbal statements.

Our response:

I am including as Attachments 3 and 4 drawings from 1988 and 1992 showing the layout of the sewer lines at the VA Palo Alto facility. The drawings do not show any hold-up tanks and show a direct sewer lines to Bldg. 2. According to Engineering this has not changed throughout the life of Building 2 and is still the same today.

4. Item 3. in the email states:

Copies of previous licenses and permits (first page is all that is needed) to verify that uranium was not included on any of these. NRC reviewer noted that he could likely obtain this himself with some effort but if we could provide them it would help expedite the review. I agreed to pull together what we have on file.

Our response:

I am including as Attachment 5 copies of front pages of the original NRC license and all subsequent amendments. These documents further support our position that uranium materials used in the building were used only in very small quantities under general licensing provisions.



Lance J. Phillips, CHP
RSO, VAPAHCS
RSO, Stanford University
EH&S Facility
480 Oak Road
Stanford, CA 94305
(650) 725-1412

Attachments:

1. Copy of E-mail Dated February 22, 2012, from NHPP to NRC
2. TABLE I: VAPAHCS Building 2, B-Wing, First Floor
3. Veterans Administration Medical Center, Palo Alto, CA Sanitary Sewer Drawing, May 1988.
4. Department of Veterans Affairs Medical Center, Station 640, Palo Alto, CA, Utilities, Sanitary Sewer Drawing , 5/27/1992.
5. Copies of Front Pages of Original NRC License and Subsequent Amendments

Attachment 1

Copy of E-mail dated February 22, 2012, from NHPP to NRC

From: Huston, Thomas E.
Sent: Wednesday, February 22, 2012 9:43 AM
To: 'LaFranzo, Michael'
Cc: Null, Kevin; Williams, Gary E
Subject: RE: VA Palo Alto (Decommissioning) - Additional information Requested

Michael,

Sorry for the delay in getting you a date. I just returned yesterday to the office from travel last week and holiday Monday.

Our target date for submitting the requested information is next Friday, March 2.

At this time I do not see a need for a written request.

My understanding of what you requested by phone last week is outlined below:

1. Description of the status of the areas (rooms) to be released in Wings A and B. NRC reviewer desires a room by room account describing if the room was released previously under the broad-scope permit authority and to what extent the room has undergone any remodeling (e.g., floors, walls, ceiling replaced/covered/painted, original surfaces removed, original ductwork removed) since being released by the permittee. Many rooms were released under the permittee's broad-scope authority years ago and converted to domiciles.
2. Documentation (i.e., facility diagrams) of the sanitary sewer system to show the system as it was during times when radioactive materials were used as compared to current state (maybe there have been no changes) and indicating no holdup tanks. NRC reviewer would prefer to have some documentation of the sewer system as compared to verbal statements.
3. Copies of previous licenses and permits (first page is all that is needed) to verify that uranium was not included on any of these. NRC reviewer noted that he could likely obtain these himself with some effort but if we could provide them it would help expedite the review. I agreed to pull together what we have on file.

If I have misunderstood any items, please feel free to contact me to discuss further.

Thanks,
Tom

Thomas E. Huston, PhD, CHP
National Health Physics Program (115/HP)
Veterans Health Administration
Wk: 501-257-1578; Cell: 501-454-7264; Fax: 501-257-1570

From: LaFranzo, Michael [mailto:Michael.LaFranzo@nrc.gov]
Sent: Wednesday, February 22, 2012 9:01 AM
To: Huston, Thomas E.

Cc: Null, Kevin

Subject: VA Palo Alto (Decommissioning) - Additional information Requested

Thomas,

Last week, you and I discussed the above facility and the NRC verbally provided you additional comments to assist us in our review. Of the topics discussed, one of them was the current condition of the rooms and building that was not addressed in earlier descriptions. In that phone call, you had indicated that you would provide a timeline when the licensee could get that information to NRC. At this time, NRC has not received such information.

Please contact me and let me know the status of the additional information NRC requested. If you desire, we can forward such a request, in writing, in the next few days. Thank you.

Michael M. LaFranzo
Senior Health Physicist
Region III - Division of Nuclear Materials Safety
2443 Warrenvill Road
Lisle, Illinois 60532
Phone: 630-829-9865
Fax: 630-515-1259
email: michael.lafranzo@nrc.gov

Attachment 2

TABLE I: VAPAHCS Building 2, B-Wing, First Floor

TABLE I: VAPAHCS Building 2, B-Wing, First Floor

Original Room Designation	Original # of fume Hoods that may have been used with volatile radioactive materials	Original # of sinks that may have been used for disposal of radioactive materials	Final Routine Health Physics Survey	Room Close Out Survey Date (Data Previously Submitted) No use in any of these rooms after this date	Room Designation After Remodeling (circa August 2000) (All rooms were renumbered; some were divided into different rooms, others combined. All were given new designations. All sinks, fume hoods, cabinets, countertops and surfaces were removed, covered, or painted after August 2000.)	Vendor (Philotechnics) Final Decommissioning Survey Date
B121	0	1	4/21/98 (no use after this date)	7/28/2000	B130	6/13/11
B122	1	1	4/18/00	7/28/2000	B134	6/13/11
B123	0	1	5/24/00	7/28/2000	B134A	6/13/11
B124	2	3	5/24/00	7/28/2000	B140A, B141A B140,B141,B144,B145	6/13/11
B126	0	2	6/16/94 (no use after this date)	7/28/2000	B135A	6/13/11
B127	1	0	4/19/00	7/28/2000	B135	6/13/11
B128	0	0	4/19/00	7/28/2000	B131	6/13/11
B131A	1	2	6/19/00	7/28/2000	B150	6/14/11
B131B	1	1	6/19/00	7/28/2000	B160	6/14/11
B131C	1	1	4/19/00	7/28/2000	B160	6/14/11

Attachment 3

Veterans Administration Medical Center, Palo Alto, CA Sanitary Sewer Drawing, May 1988

VETERANS ADMINISTRATION MEDICAL CENTER PALO ALTO, CA

LEGEND

- SANITARY SEWER
- MANHOLE
- SEWER
- FLOW DIRECTION
- WASTE INTERCEPTOR
- PALO ALTO SEWER LINE

NOTE: CITY OF PALO ALTO HAS NO SANITARY SEWER SERVICE WITHIN 500 FEET OF THE CENTER.

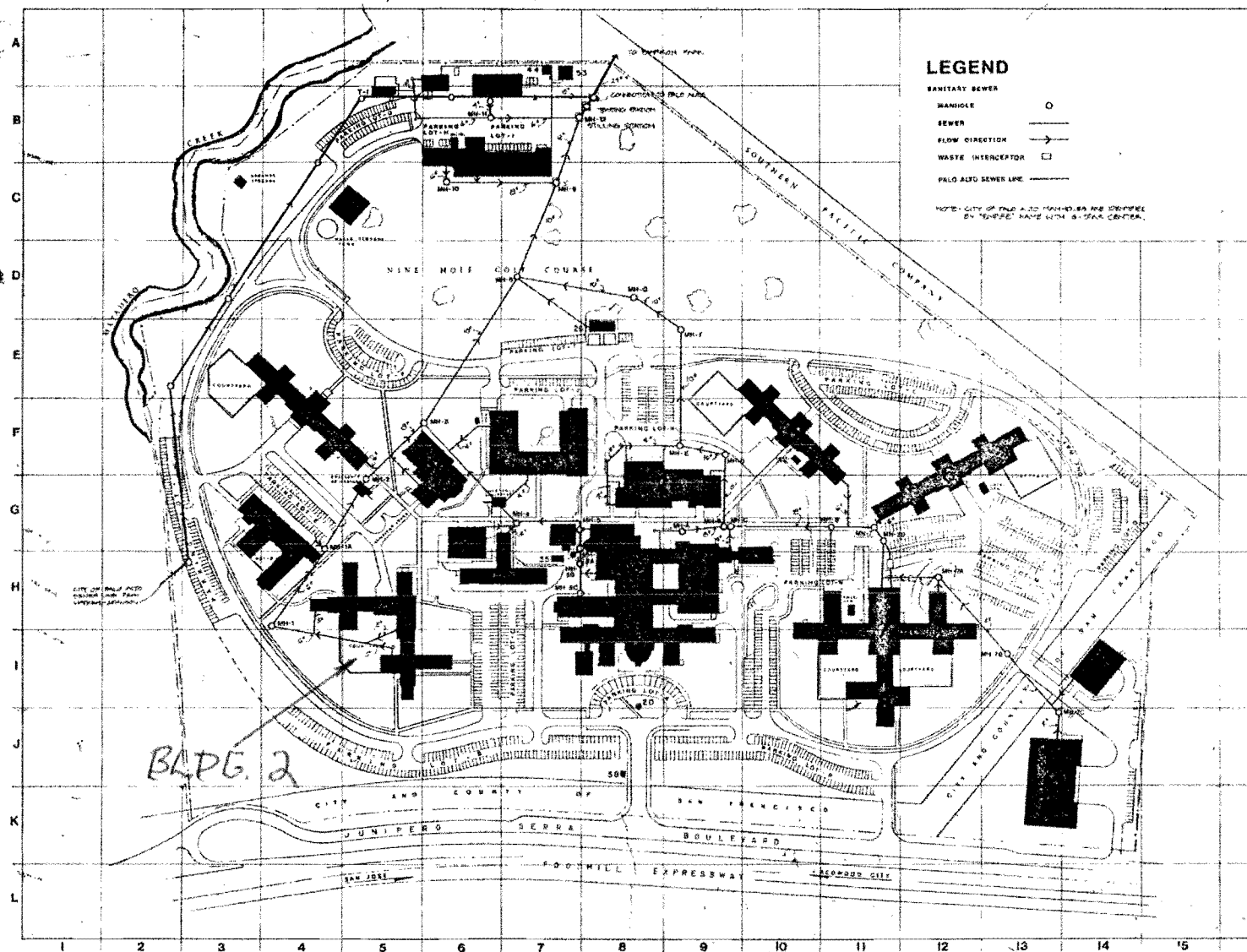
BUILDING SCHEDULE

1	G M B S
2	GERIATRIC
4	PSYCHIATRY
5	PSYCHIATRY
6	ADMINISTRATION
7	NEUROLOGICAL/SPINAL CORD INJ
20	FLAGPOLE
21	CHapel
22	AUDIOLOGY THERAPY WORKSHOPS
23	GYMNASIUM/ SWIMMING POOL
24	RECREATION/CANTEEN/ PATIENT LIBRARY
25	KITCHEN/DINING ROOM
26	GOLF CLUB HOUSE
40	BOILER HOUSE/ INCINERATOR
41	ENGINEERING OFFICES/ ELECTRONIC SHOP
42	UTILITY SHOPS
43	LAUNDRY
44	STORAGE
45	OXYGEN STORAGE
48	BLIND & LOW VISION CENTER
49	FUEL STORAGE TANK
50	WAREHOUSE BLDG
51	REHABILITATION, RESEARCH & DEVELOPMENT CENTER
52	G-WING MECHANICAL BLDG
53	GOLF COURSE MAINT. BLDG.
54	ANIMAL RESEARCH BLDG.
55	SWITCHING STATION
56	DIRECTOR'S SUITE
58	BUS STOP
T	ANIMAL SHELTER



SANITARY SEWER
REFERENCE ONLY

MAY 1990



Attachment 4

Department of Veterans Affairs Medical Center, Station 640, Palo Alto, CA, Utilities, Sanitary
Sewer Drawing , 5/27/1992

Attachment 5

Copies of Front Pages of Original NRC License and Subsequent Amendments

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, 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.

Licensee		
1. V. A. Medical Center		3. License number 04-23242-01
2. 3801 Miranda Avenue Palo Alto, California 94304		4. Expiration date August 31, 1991
		5. Docket or Reference No. 030-20404
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 3 to 83 except as specified in Subitems 6.B. through 6.F. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.F. below Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies
B. Hydrogen 3	B. Any	B. 1 curie
C. Technetium 99m	C. Any	C. 4.5 curies
D. Molybdenum 99	D. Any	D. 4.5 curies
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies
F. Iodine 131	F. Any	F. 600 millicuries
9. Authorized use		
A. through F. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.		

CONDITIONS

10. Licensed material shall be used only at the V. A. Medical Center, 3801 Miranda Avenue, Palo Alto, California 94304.

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MATERIALS LICENSE

Amendment No. 1

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, 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.

CORRECTED COPY

Licensee	
1. V. A. Medical Center	In accordance with letter dated October 8, 1986
2. 3801 Miranda Avenue Palo Alto, California 94304	3. License number 04-23242-01 is amended in its entirety to read as follows:
	4. Expiration date August 31, 1991
	5. Docket or Reference No. 030-20404
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 3 to 83 except as specified in Subitems 6.B. through 6.F. below	A. Any
B. Hydrogen 3	B. Any
C. Technetium 99m	C. Any
D. Molybdenum 99	D. Any
E. Gadolinium 153	E. Sealed sources
F. Iodine 131	F. Any
G. Iodine 125	G. Sealed sources
	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.F. below. Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies
	B. 1 curie
	C. 4.5 curies
	D. 4.5 curies
	E. 2.0 curies
	F. 600 millicuries
	G. Not to exceed 400 millicuries per source
9. Authorized use	
A. through G. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.	

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License number

04-23242-01

Docket or Reference number

030-20404

Amendment No. 2

V. A. Medical Center
3801 Miranda Avenue
Palo Alto, California 94304

In accordance with letter dated April 10, 1987, License No. 04-23242-01 is amended as follows:

License Condition 26. is amended to read:

26. This license is based on the licensee's statements and representations made in the following documents:

V. A. contract with Stanford University, forwarded with letter dated September 27, 1982 signed by John A. Holmes

Letter dated December 6, 1985 from James C. DeNiro, Medical Center Director.

Letter dated March 27, 1986 signed by James C. DeNiro and Roland A. Finston.

Letter dated June 26, 1986 signed by James C. DeNiro and Roland A. Finston.

Item 1 of letter dated October 8, 1986 signed by James C. DeNiro and Roland A. Finston

Letter dated April 10, 1987 signed by James C. DeNiro and Roland A. Finston.

License Condition 28. is added:

28. The licensee may use the Calicheck device for doing linearity tests of its dose calibrator provided it follows the procedures in the Calcorp, Inc. Manual dated March 2, 1982.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

original signed by B. A. Riedlinger

Date May 4, 1987

By

Beth A. Riedlinger
Health Physicist (Licensing)
Nuclear Materials Safety Section
Region V

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MATERIALS LICENSE

Amendment No. 3

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, 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.

Licensee		In accordance with letters dated May 4, 1987 and November 10, 1987	
1. V. A. Medical Center		3. License number 04-23242-01 is amended in its entirety to read as follows:	
2. 3801 Miranda Avenue Palo Alto, California 94304		4. Expiration date August 31, 1991	
		5. Docket or Reference No. 030-20404	
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 3 to 83 except as specified in Subitems 6.B. through 6.F. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.F. below. Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies	
B. Hydrogen 3	B. Any	B. 1 curie	
C. Technetium 99m	C. Any	C. 4.5 curies	
D. Molybdenum 99	D. Any	D. 4.5 curies	
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies	
F. Iodine 131	F. Any	F. 600 millicuries	
G. Iodine 125	G. Sealed sources	G. Not to exceed 400 millicuries per source	
9. Authorized use			
A. through G. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.			

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MATERIALS LICENSE

Amendment No. 4

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, 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.

Licensee		In accordance with letters dated October 13, 1988	
1. V. A. Medical Center		3. License number	04-23242-01 is amended in its entirety to read as follows:
2. 3801 Miranda Avenue Palo Alto, California 94304		4. Expiration date	August 31, 1991
		5. Docket or Reference No.	030-20404
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 3 to 83 except as specified in Subitems 6.B. through 6.F. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.F. below Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies.	
B. Hydrogen 3	B. Any	B. 1 curie	
C. Technetium 99m	C. Any	C. 4.5 curies	
D. Molybdenum 99	D. Any	D. 4.5 curies	
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies	
F. Iodine 131	F. Any	F. 600 millicuries	
G. Iodine 125	G. Sealed sources	G. Not to exceed 400 millicuries per source	
9. Authorized use			
A. through G. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.			

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MATERIALS LICENSE

Amendment No. 5

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, 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.

Licensee 1. V. A. Medical Center 2. 3801 Miranda Avenue Palo Alto, California 94304	In accordance with letter dated August 24, 1989 3. License number 04-23242-01 is amended in its entirety to read as follows 4. Expiration date August 31, 1991 5. Docket or Reference No. 030-20404
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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 3 to 83 except as specified in Subitems 6.B. through 6.F. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.F. below
B. Hydrogen 3	B. Any	Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies
C. Technetium 99m	C. Any	B. 1 curie
D. Molybdenum 99	D. Any	C. 4.5 curies
E. Gadolinium 153	E. Sealed sources	D. 4.5 curies
F. Iodine 131	F. Any	E. 2.0 curies
G. Iodine 125	G. Sealed sources	F. 600 millicuries G. Not to exceed 400 millicuries per source

9. Authorized use A. through G. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.
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 04-23242-01 PDR

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MATERIALS LICENSE

Amendment No. 6

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, 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.

Licensee		In accordance with letter dated March 20, 1990
1. V. A. Medical Center		3. License number 04-23242-01 is amended in its entirety to read as follows
2. 3801 Miranda Avenue Palo Alto, California 94304		4. Expiration date August 31, 1991
		5. Docket or Reference No. 030-20404
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 3 to 83 except as specified in Subitems 6.B. through 6.F. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.F. below. Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies
B. Hydrogen 3	B. Any	B. 1 curie
C. Technetium 99m	C. Any	C. 4.5 curies
D. Molybdenum 99	D. Any	D. 4.5 curies
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies
F. Iodine 131	F. Any	F. 600 millicuries
G. Iodine 125	G. Sealed sources	G. Not to exceed 400 millicuries per source
9. Authorized use		
A. through G. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.		

MATERIALS LICENSE

Amendment No. 7

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, 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.

CORRECTED COPY

Licensee

1. V. A. Medical Center

2. 3801 Miranda Avenue
Palo Alto, California 94304In accordance with letter
dated March 20, 19903. License number 04-23242-01 is amended in
its entirety to read as follows

4. Expiration date August 31, 1991

5. Docket or
Reference No. 030-204046. Byproduct, source, and/or
special nuclear material7. Chemical and/or physical
form8. Maximum amount that licensee
may possess at any one time
under this licenseA. Any byproduct material
with atomic numbers
3 to 83 except as
specified in Subitems
6.B. through 6.F. below

A. Any

A. 300 millicuries of
each radionuclide
with atomic numbers
3 to 83 except as
specified in Subitems
8.B. through 8.F. below.
Total possession
limit for materials
specified in Subitem
6.A. not to exceed
5 curies

B. Hydrogen 3

B. Any

B. 1 curie

C. Technetium 99m

C. Any

C. 4.5 curies

D. Molybdenum 99

D. Any

D. 4.5 curies

E. Gadolinium 153

E. Sealed sources

E. 2.0 curies

F. Iodine 131

F. Any

F. 600 millicuries

G. Iodine 125

G. Sealed sources

G. Not to exceed
400 millicuries
per source

9. Authorized use

A. through G. Medical research, diagnosis and therapy including research in laboratory animals. Research studies in humans, as defined in 21 CFR Section 361.1 and as approved by a Food and Drug Administration Radioactive Drug Research Committee under the provisions of 21 CFR Part 361.

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REGS LIC30
MATLS LICENSING PDR

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MATERIALS LICENSE

Amendment No. 8

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, 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 regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

CORRECTED COPY

Licensee		
1. V. A. Medical Center		In accordance with letters dated July 23, and August 14, 1990,
2. 3801 Miranda Avenue Palo Alto, California 94304		3. License number 04-23242-01 is amended in its entirety to read as follows
		4. Expiration date August 31, 1991
		5. Docket or Reference No. 030-20404
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 3 to 83, with half-lives not exceeding 120 days, except as specified in Subitems 6.B. through 6.M. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.M. below. Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies
B. Hydrogen 3	B. Any	B. 1 curie
C. Technetium 99m	C. Any	C. 4.5 curies
D. Molybdenum 99	D. Any	D. 4.5 curies
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies
F. Iodine 131	F. Any	F. 600 millicuries
G. Iodine 125	G. Sealed sources	G. Not to exceed 400 millicuries per source
H. Carbon 14	H. Any	H. 100 millicuries
I. Chlorine 36	I. Any	I. 1 millicurie
J. Calcium 45	J. Any	J. 10 millicuries
K. Iron 55	K. Any	K. 10 millicuries
L. Strontium 90	L. Any	L. 1 millicurie

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REG5 LIC30
MATSLICENSING PDR

M/57

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License num

04-23242-01

Docket or Reference number

030-20404

CORRECTED COPY

Amendment No. 8

CONDITIONS

M. Cesium 137 M. Sealed sources M. 300 millicuries

9. Authorized use

A. through M. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. Licensed material shall be used only at the V. A. Medical Center, 3801 Miranda Avenue, Palo Alto, California 94304 or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.

11. A.1. Licensed material shall be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Leon Rosenberg, Chairmen, respectively.

2. Between July 14, 1989 and January 14, 1990, licensed material may also be used by, or under the supervision of, individuals designated by the Human Use Committee, Dr. Michael L. Goris, Acting Committee Chairman.

B. The use of licensed material in or on humans shall be by a physician as defined in 10 CFR 35.3(b).

C. Physicians designated to use licensed material in or on humans shall meet the training criteria established in Appendix A of Regulatory Guide 10.8 (Revision 1), dated October 1980, and as revised December 2, 1982 (47 FR 54376).

D. The Radiation Protection Officer for the activities authorized by this license is John A. Holmes.

12. A. (1) Each sealed source acquired from another person and containing licensed material, other than hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage before use. In the absence of a certificate from a transferor indicating that a test has been made within six months before the transfer, a sealed source received from another person shall not be put into use until tested.

(2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting materials or 10 microcuries or less of alpha emitting material.

MATERIALS LICENSE

Amendment No. 9

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, 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.

Licensee	In accordance with letter dated September 12, 1991
1. V. A. Medical Center	3. License number 04-23242-01 is amended in its entirety to read as follows:
2. 3801 Miranda Avenue Palo Alto, California 94304	4. Expiration date August 31, 1991
	5. Docket or Reference No. 030-20404

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 3 to 83, with half-lives not exceeding 120 days, except as specified in Subitems 6.B through 6.M. below	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B. through 8.M. below. Total possession limit for materials specified in Subitem 6.A. not to exceed 5 curies
B. Hydrogen 3	B. Any	B. 1 curie
C. Technetium 99m	C. Any	C. 4.5 curies
D. Molybdenum 99	D. Any	D. 4.5 curies
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies
F. Iodine 131	F. Any	F. 600 millicuries
G. Iodine 125	G. Sealed sources	G. Not to exceed 400 millicuries per source
H. Carbon 14	H. Any	H. 100 millicuries
I. Chlorine 36	I. Any	I. 1 millicurie
J. Calcium 45	J. Any	J. 10 millicuries

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REG5 LIC30
MATLS LICENSING PDR*J. Madigan*
(11/5/91)

ML50

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License number

04-23242-01

Docket or Reference number

030-20404

Amendment No. 9:

K. Iron 55	K. Any	K. 10 millicuries
L. Strontium 90	L. Any	L. 1 millicurie
M. Cesium 137	M. Sealed sources	M. 300 millicuries

9. Authorized use

A. through M. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. Licensed material shall be used only at the V.A. Medical Center, 3801 Miranda Avenue, Palo Alto, California 94304 or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
11. A.1 Licensed material shall be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Leon Rosenberg, Chairmen, respectively.
2. Between July 14, 1989 and January 14, 1990, licensed material may also be used by, or under the supervision of, individuals designated by the Human Use Committee, Dr. Michael L. Goris, Acting Committee Chairman.
- B. The use of licensed material in or on humans shall be by a physician as defined in 10 CFR 35.2.
- C. Physicians designated to use licensed material in or on humans shall meet the training criteria established in Appendix A of Regulatory Guide 10.8 (Revision 1), dated October 1980, and as revised December 2, 1982 (47 FR 54376).
- D. The Radiation Protection Officer for the activities authorized by this license is John A. Holmes.
12. A. (1) Each sealed source acquired from another person and containing licensed material, other than hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage before use. In the absence of a certificate from a transferor indicating that a test has been made within six months before the transfer, a sealed source received from another person shall not be put into use until tested.

MATERIALS LICENSE

Amendment No. 10

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, 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.

FILE EXEMPT

Licensee

1. Department of Veterans Affairs
Medical Center
2. 3801 Miranda Avenue
Palo Alto, California 94304

In accordance with letter
dated July 22, 1991
3. License number 04-23242-01 is amended in
its entirety to read as follows:

4. Expiration date November 30, 1996

5. Docket or
Reference No. 030-204046. Byproduct, source, and/or
special nuclear material7. Chemical and/or physical
form8. Maximum amount that licensee
may possess at any one time
under this license

A. Any byproduct material
with atomic numbers
3-83 and a half life of
less than 120 days except
as noted below:

A. Any

A. 300 millicuries of each
radionuclide with atomic
numbers 3 to 83 except
as specified in
Subitems 8.B through
8.M below. Total
possession limit for
Subitems 6.A not to
exceed 5 curies.

B. Hydrogen 3

B. Any

B. 1 curie

C. Technetium 99m

C. Any

C. 4.5 curies

D. Molybdenum 99

D. Any

D. 4.5 curies

E. Gadolinium 153

E. Sealed sources

E. 2.0 curies

F. Iodine 131

F. Any

F. 600 millicuries

G. Iodine 125

G. Any

G. 400 millicuries

H. Iodine 125

H. Sealed sources

H. Not to exceed 400
millicuries per source

I. Carbon 14

I. Any

I. 300 millicuries

J. Chlorine 36

J. Any

J. 1 millicurie

K. Calcium 45

K. Any

K. 10 millicuries

L. Iron 55

L. Any

L. 10 millicuries

M. Strontium 90

M. Any

M. 1 millicurie

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REG5 LIC30
MATLSLICENSING PDR

FILE EXEMPT

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9/

ML 50

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License number

04-23242-01

Docket or Reference number

030-20404

Amendment No. 10

(continued)

CONDITIONS

- | | | |
|-----------------|-------------------|--------------------|
| N. Cesium 137 | N. Sealed sources | N. 300 millicuries |
| O. Strontium 85 | O. Any | O. 1 curie |

9. Authorized use

- A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Protection Officer for the activities authorized by this license is John A. Holmes.
12. A. Licensed material shall be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Leon Rosenberg, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician as defined in 10 CFR 35.2.
- C. Physicians designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35, Subpart J and shall be designated by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users.
- D. Licensed material for other than human use shall be used by, or under the supervision of, individuals designated by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users.
13. A. (1) Each sealed source acquired from another person and containing licensed material, other than hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage before use. In the absence of a certificate from a transferor indicating that a test has been made within six months before the transfer, a sealed source received from another person shall not be put into use until tested.

MATERIALS LICENSE

Amendment No. 11

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, 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.

Licensee 1. Department of Veterans Affairs Medical Center 2. 3801 Miranda Avenue Palo Alto, California 94304		In accordance with letter dated January 10, 1992 04-23242-01 is amended in 3. License number its entirety to read as follows: Expiration date November 30, 1996 5. Docket or Reference No. 030-20404	
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 3-83 and a half life of less than 120 days except as noted below:	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.	
B. Hydrogen 3	B. Any	B. 1 curie	
C. Technetium 99m	C. Any	C. 4.5 curies	
D. Molybdenum 99	D. Any	D. 4.5 curies	
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies	
F. Iodine 131	F. Any	F. 600 millicuries	
G. Iodine 125	G. Any	G. 400 millicuries	
H. Iodine 125	H. Sealed sources	H. Not to exceed 400 millicuries per source	
I. Carbon 14	I. Any	I. 300 millicuries	
J. Chlorine 36	J. Any	J. 1 millicurie	
K. Calcium 45	K. Any	K. 10 millicuries	
L. Iron 55	L. Any	L. 10 millicuries	
M. Strontium 90	M. Any	M. 1 millicurie	

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REGS LIC30
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ML50

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License number

04-23242-01

Docket or Reference number

030-20404

Amendment No. 11

CONDITIONS

(continued)

- | | | |
|-----------------|-------------------|--------------------|
| N. Cesium 137 | N. Sealed sources | N. 300 millicuries |
| D. Strontium 85 | O. Any | O. 1.5 curies |

9. Authorized use

- A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Protection Officer for the activities authorized by this license is John A. Holmes.
12. A. Licensed material shall be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Leon Rosenberg, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician as defined in 10 CFR 35.2.
- C. Physicians designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35, Subpart J and shall be designated by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users.
- D. Licensed material for other than human use shall be used by, or under the supervision of, individuals designated by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users.
13. A. (1) Each sealed source acquired from another person and containing licensed material, other than hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage before use. In the absence of a certificate from a transferor indicating that a test has been made within six months before the transfer, a sealed source received from another person shall not be put into use until tested.

- MATERIALS LICENSE

Amendment No. 12

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, 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.

Licensee

1. Department of Veterans Affairs
Medical Center
2. 3801 Miranda Avenue
Palo Alto, CA 94304

In accordance with letter
dated August 26, 1993

3. License number 04-23242-01 is amended
in its entirety to read as follows:

4. Expiration date November 30, 1996

5. Docket or
Reference No. 030-20404

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 3-83 and a
half life of less
than 120 days except
as noted below:

A. Any

A. 300 millicuries of
each radionuclide
with atomic numbers 3
to 83 except as
specified in Subitems
8.B through 8.M
below. Total
possession limit for
Subitems 6.A not to
exceed 5 curies.

B. Hydrogen 3

B. Any

B. 1 curie

C. Technetium 99m

C. Any

C. 4.5 curies

D. Molybdenum 99

D. Any

D. 4.5 curies

E. Gadolinium 153

E. Sealed sources

E. 2.0 curies

F. Iodine 131

F. Any

F. 600 millicuries

G. Iodine 125

G. Any

G. 400 millicuries

H. Iodine 125

H. Sealed sources

H. Not to exceed 400
millicuries per
source

I. Carbon 14

I. Any

I. 300 millicuries

J. Chlorine 36

J. Any

J. 1 millicurie

K. Calcium 45

K. Any

K. 10 millicuries

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

04-23242-01

Docket or Reference number

030-20404

Amendment No. 12

6. Byproduct, source,
and/or special nuclear
material7. Chemical and/or physical
form8. Maximum amount that
licensee may possess at
any one time under this
license

L. Iron 55

L. Any

L. 10 millicuries

M. Strontium 90

M. Any

M. 1 millicurie

N. Cesium 137

N. Sealed sources

N. 300 millicuries

O. Strontium 85

O. Any

O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Leon Rosenberg, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

MATERIALS LICENSE

Amendment No. 13

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, 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.

Licensee 1. Department of Veterans Affairs Medical Center 2. 3801 Miranda Avenue Palo Alto, CA- 94304		In accordance with letter dated November 2, 1993 3. License number 04-23242-01 is amended in its entirety to read as follows:	
		4. Expiration date	November 30, 1996
		5. Docket or Reference No.	030-20404
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 3-83 and a half life of less than 120 days except as noted below:	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8:B through 8:M below. Total possession limit for Subitems 6.A not to exceed 5 curies.	
B. Hydrogen 3	B. Any	B. 1 curie	
C. Technetium 99m	C. Any	C. 4.5 curies	
D. Molybdenum 99	D. Any	D. 4.5 curies	
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies	
F. Iodine 131	F. Any	F. 600 millicuries	
G. Iodine 125	G. Any	G. 400 millicuries	
H. Iodine 125	H. Sealed sources	H. Not to exceed 400 millicuries per source	
I. Carbon 14	I. Any	I. 300 millicuries	
J. Chlorine 36	J. Any	J. 1 millicurie	
K. Calcium 45	K. Any	K. 10 millicuries	

NRC Form 374A
(5-84)

U.S. NUCLEAR REGULATORY COMMISSION

PAGE 2 OF 6 PAGES

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number 04-23242-01

Docket or Reference number 030-20404

Amendment No. 13

- | | | |
|---|----------------------------------|--|
| 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 |
| L. Iron 55 | L. Any | L. 10 millicuries |
| M. Strontium 90 | M. Any | M. 1 millicurie |
| N. Cesium 137 | N. Sealed sources | N. 300 millicuries |
| O. Strontium 85 | O. Any | O. 1.5 curies |

9. Authorized use

- A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Leon Rosenberg, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

MATERIALS LICENSE

Amendment No. 14

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, 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.

Licensee

1. Department of Veterans Affairs
Medical Center

2. 3801 Miranda Avenue
Palo Alto, CA 94304

In accordance with letter
dated January 14, 1994

3. License number 04-23242-01 is amended
in its entirety to read as follows:

4. Expiration date November 30, 1996

5. Docket or
Reference No. 030-20404

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 3-83 and a
half life of less
than 120 days except
as noted below:

A. Any

A. 300 millicuries of
each radionuclide
with atomic numbers 3
to 83 except as
specified in Subitems
8.B through 8.M
below. Total
possession limit for
Subitems 6.A not to
exceed 5 curies.

B. Hydrogen 3

B. Any

B. 1 curie

C. Technetium 99m

C. Any

C. 4.5 curies

D. Molybdenum 99

D. Any

D. 4.5 curies

E. Gadolinium 153

E. Sealed sources

E. 2.0 curies

F. Iodine 131

F. Any

F. 600 millicuries

G. Iodine 125

G. Any

G. 400 millicuries

H. Iodine 125

H. Sealed sources

H. Not to exceed 400
millicuries per
source

I. Carbon 14

I. Any

I. 300 millicuries

J. Chlorine 36

J. Any

J. 1 millicurie

K. Calcium 45

K. Any

K. 10 millicuries

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number 04-23242-01

Docket or Reference number 030-20404

Amendment No. 14

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
L. Iron 55	L. Any	L. 10 millicuries
M. Strontium 90	M. Any	M. 1 millicurie
N. Cesium 137	N. Sealed sources	N. 300 millicuries
O. Strontium 85	O. Any	O. 1.5 curies

9. Authorized use

- A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Michele Calos, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

MATERIALS LICENSE

Amendment No. 15

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, 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.

Licensee

1. Department of Veterans Affairs
Medical Center

2. 3801 Miranda Avenue
Palo Alto, CA 94304

In accordance with letter dated
January 30, 1996

3. License number 04-23242-01 is amended
in its entirety to read as follows:

4. Expiration date November 30, 1996

5. Docket or
Reference No. 030-20404

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 3-83 and a
half life of less
than 120 days except
as noted below:

A. Any

A. 300 millicuries of
each radionuclide
with atomic numbers
3 to 83 except as
specified in
Subitems 8.B
through 8.M below.
Total possession
limit for Subitems
6.A not to exceed 5
curies.

B. Hydrogen 3
C. Technetium 99m
D. Molybdenum 99
E. Gadolinium 153
F. Iodine 131
G. Iodine 125
H. Iodine 125

B. Any
C. Any
D. Any
E. Sealed sources
F. Any
G. Any
H. Sealed sources

B. 1 curie
C. 4.5 curies
D. 4.5 curies
E. 2.0 curies
F. 600 millicuries
G. 400 millicuries
H. Not to exceed 400
millicuries per
source

I. Carbon 14
J. Chlorine 36
K. Calcium 45
L. Iron 55

I. Any
J. Any
K. Any
L. Any

I. 300 millicuries
J. 1 millicurie
K. 10 millicuries
L. 10 millicuries

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

04-23242-01

Docket or Reference Number

030-20404

Amendment No. 15

M. Strontium 90	M. Any	M. 1 millicurie
N. Cesium 137	N. Sealed sources	N. 300 millicuries
O. Strontium 85	O. Any	O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Michele Calos, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.

MATERIALS LICENSE

Amendment No. 16

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, 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.

Licensee	
1. Department of Veterans Affairs Medical Center	In accordance with letter dated April 26, 1996 3. License number 04-23242-01 is amended in its entirety to read as follows:
2. 3801 Miranda Avenue Palo Alto, CA 94304	4. Expiration date November 30, 1996
	5. Docket or Reference No. 030-20404
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 3-83 and a half life of less than 120 days except as noted below:	A. Any
B. Hydrogen 3	B. Any
C. Technetium 99m	C. Any
D. Molybdenum 99	D. Any
E. Gadolinium 153	E. Sealed sources
F. Iodine 131	F. Any
G. Iodine 125	G. Any
H. Iodine 125	H. Sealed sources
I. Carbon 14	I. Any
J. Chlorine 36	J. Any
K. Calcium 45	K. Any
L. Iron 55	L. Any
	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.
	B. 1 curie
	C. 4.5 curies
	D. 4.5 curies
	E. 2.0 curies
	F. 600 millicuries
	G. 400 millicuries
	H. Not to exceed 400 millicuries per source
	I. 300 millicuries
	J. 1 millicurie
	K. 10 millicuries
	L. 10 millicuries

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

04-23242-01

Docket or Reference Number

030-20404

Amendment No. 16

M. Strontium 90	M. Any	M. 1 millicurie
N. Cesium 137	N. Sealed sources	N. 300 millicuries
O. Strontium 85	O. Any	O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California or at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California.
- B. Radioactive material identified in item 6.H may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. Michele Calos, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.

MATERIALS LICENSE

Amendment No. 17

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, 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.

Licensee		In accordance with letter dated June 27, 1996	
1. Department of Veterans Affairs Medical Center		3. License number	04-23242-01 is amended in its entirety to read as follows:
2. 3801 Miranda Avenue Palo Alto, CA 94304		4. Expiration date	November 30, 2001
		5. Docket or Reference No.	030-20404
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 3-83 and a half life of less than 120 days except as noted below:	A. Any	A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.	
B. Hydrogen 3	B. Any	B. 1 curie	
C. Technetium 99m	C. Any	C. 4.5 curies	
D. Molybdenum 99	D. Any	D. 4.5 curies	
E. Gadolinium 153	E. Sealed sources	E. 2.0 curies	
F. Iodine 131	F. Any	F. 600 millicuries	
G. Iodine 125	G. Any	G. 400 millicuries	
H. Iodine 125	H. Sealed sources	H. Not to exceed 400 millicuries per source	
I. Carbon 14	I. Any	I. 300 millicuries	
J. Chlorine 36	J. Any	J. 1 millicurie	
K. Calcium 45	K. Any	K. 10 millicuries	
L. Iron 55	L. Any	L. 10 millicuries	

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

04-23242-01

Docket or Reference Number

030-20404

Amendment No. 17

M. Strontium 90	M. Any	M. 1 millicurie
N. Cesium 137	N. Sealed sources	N. 300 millicuries
O. Strontium 85	O. Any	O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.
- B. Radioactive material identified in item 6.H. may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the Human Use and Non-Human Use Radioisotope Committees, Dr. David A. Goodwin and Dr. David McKay, Chairman, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

MATERIALS LICENSE

Amendment No. 18

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, 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.

Licensee		In accordance with letter dated November 8, 1996, 3. License Number 04-23242-01 is amended in its entirety to read as follows:	
1. Department of Veterans Affairs Medical Center			
2. 3801 Miranda Avenue Palo Alto, CA 94304		4. Expiration Date November 30, 2001	
		5. Docket or Reference No. 030-20404	
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 3-83 and a half life of less than 120 days except as noted below:		A. Any	
B. Hydrogen 3		B. Any	
C. Technetium 99m		C. Any	
D. Molybdenum 99		D. Any	
E. Gadolinium 153		E. Sealed sources	
F. Iodine 131		F. Any	
G. Iodine 125		G. Any	
H. Iodine 125		H. Sealed sources	
I. Carbon 14		I. Any	
J. Chlorine 36		J. Any	
K. Calcium 45		K. Any	
L. Iron 55		L. Any	
		A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.	
		B. 1 curie	
		C. 4.5 curies	
		D. 4.5 curies	
		E. 2.0 curies	
		F. 600 millicuries	
		G. 400 millicuries	
		H. Not to exceed 400 millicuries per source	
		I. 300 millicuries	
		J. 1 millicurie	
		K. 10 millicuries	
		L. 10 millicuries	

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
04-23242-01

Docket or Reference Number
030-20404

Amendment No. 18

M. Strontium 90	M. Any	M. 1 millicurie
N. Cesium 137	N. Sealed sources	N. 300 millicuries
O. Strontium 85	O. Any	O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.
- B. Radioactive material identified in item 6.H. may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D., Chairpersons, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

MATERIALS LICENSE

Amendment No. 19

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, 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.

Licensee

1. Department of Veterans Affairs
Medical Center
2. 3801 Miranda Avenue
Palo Alto, CA 94304

In accordance with letter dated
October 9, 1997,

3. License Number 04-23242-01 is amended
in its entirety to read as follows:

4. Expiration Date November 30, 2001

5. Docket or
Reference No. 030-20404

6. Byproduct, Source, and/or
Special Nuclear Material7. Chemical and/or Physical
Form8. Maximum Amount that Licensee
May Possess at Any One Time
Under This License

A. Any byproduct
material with atomic
numbers 3-83 and a
half life of less
than 120 days except
as noted below:

A. Any

A. 300 millicuries of
each radionuclide
with atomic numbers
3 to 83 except as
specified in
Subitems 8.B
through 8.M below.
Total possession
limit for Subitems
6.A not to exceed 5
curies.

- B. Hydrogen 3
C. Technetium 99m
D. Molybdenum 99
E. Gadolinium 153
F. Iodine 131
G. Iodine 125
H. Iodine 125

- B. Any
C. Any
D. Any
E. Sealed sources
F. Any
G. Any
H. Sealed sources

- B. 1 curie
C. 4.5 curies
D. 4.5 curies
E. 2.0 curies
F. 600 millicuries
G. 400 millicuries
H. Not to exceed 400
millicuries per
source
I. 300 millicuries
J. 1 millicurie
K. 10 millicuries
L. 10 millicuries

- I. Carbon 14
J. Chlorine 36
K. Calcium 45
L. Iron 55

- I. Any
J. Any
K. Any
L. Any

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

04-23242-01

Docket or Reference Number

030-20404

Amendment No. 19

M. Strontium 90	M. Any	M. 1 millicurie
N. Cesium 137	N. Sealed sources	N. 300 millicuries
O. Strontium 85	O. Any	O. 1.5 curies

9. Authorized use

- A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.
- B. Radioactive material identified in item 6.H. may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D., Chairpersons, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

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, 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>Licensee</p> <p>1. Department of Veterans Affairs Medical Center</p> <p>2. 3801 Miranda Avenue Palo Alto, CA 94304</p>	<p>In accordance with letters received February 9, 1998,</p> <p>3. License number 04-23242-01 is amended in its entirety to read as follows:</p> <p>4. Expiration date November 30, 2001</p> <p>5. Docket No. 030-20404 Reference No. 0</p>	
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material with atomic numbers 3-83 and a half life of less than 120 days except as noted below:</p> <p>B. Hydrogen-3</p> <p>C. Technetium-99m</p> <p>D. Molybdenum-99</p> <p>E. Gadolinium-153</p> <p>F. Iodine-131</p> <p>G. Iodine-125</p> <p>H. Iodine-125</p> <p>I. Carbon-14</p> <p>J. Chlorine-36</p> <p>K. Calcium-45</p> <p>L. Iron-55</p> <p>M. Strontium-90</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Sealed sources</p> <p>F. Any</p> <p>G. Any</p> <p>H. Sealed sources</p> <p>I. Any</p> <p>J. Any</p> <p>K. Any</p> <p>L. Any</p> <p>M. Any</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.</p> <p>B. 1 curie</p> <p>C. 4.5 curies</p> <p>D. 4.5 curies</p> <p>E. 2.0 curies</p> <p>F. 600 millicuries</p> <p>G. 400 millicuries</p> <p>H. Not to exceed 400 millicuries per source</p> <p>I. 300 millicuries</p> <p>J. 1 millicurie</p> <p>K. 10 millicuries</p> <p>L. 10 millicuries</p> <p>M. 1 millicurie</p>

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
04-23242-01Docket or Reference Number
030-20404

Amendment No. 20

6. Byproduct, source, and/or special
nuclear material

N. Cesium-137

O. Strontium-85

7. Chemical and/or physical form

N. Sealed sources

O. Any

8. Maximum amount that licensee may
possess at any one time under this
license

N. 300 millicuries

O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; at the Foothill Research Facility at 4005 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.

B. Radioactive material identified in item 6.H. may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.

11. The Radiation Safety Officer for this license is John A. Holmes.

12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D., Chairpersons, respectively.

B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.

C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.

D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

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, 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 align="center">Licensee</p> <p>1. Department of Veterans Affairs Veterans Affairs Palo Alto Health Care System</p> <p>2. 3801 Miranda Avenue Palo Alto, CA 94304</p>	<p>In accordance with letter dated April 20, 1998,</p> <p>3. License number 04-23242-01 is amended in its entirety to read as follows:</p> <p>4. Expiration date November 30, 2001</p> <p>5. Docket No. 030-20404 Reference No.</p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material with atomic numbers 3-83 and a half life of less than 120 days except as noted below.</p> <p>B. Hydrogen-3</p> <p>C. Technetium-99m</p> <p>D. Molybdenum-99</p> <p>E. Gadolinium-153</p> <p>F. Iodine-131</p> <p>G. Iodine-125</p> <p>H. Iodine-125</p> <p>I. Carbon-14</p> <p>J. Chlorine-36</p> <p>K. Calcium-45</p> <p>L. Iron-55</p> <p>M. Strontium-90</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Sealed sources</p> <p>F. Any</p> <p>G. Any</p> <p>H. Sealed sources</p> <p>I. Any</p> <p>J. Any</p> <p>K. Any</p> <p>L. Any</p> <p>M. Any</p> <p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.</p> <p>B. 1 curie</p> <p>C. 4.5 curies</p> <p>D. 4.5 curies</p> <p>E. 2.0 curies</p> <p>F. 600 millicuries</p> <p>G. 400 millicuries</p> <p>H. Not to exceed 400 millicuries per source</p> <p>I. 300 millicuries</p> <p>J. 1 millicurie</p> <p>K. 10 millicuries</p> <p>L. 10 millicuries</p> <p>M. 1 millicurie</p>

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
04-23242-01Docket or Reference Number
030-20404

Amendment No. 21

6. Byproduct, source, and/or special
nuclear material

N. Cesium-137

O. Strontium-85

7. Chemical and/or physical form

N. Sealed sources

O. Any

8. Maximum amount that licensee may
possess at any one time under this
license

N. 300 millicuries

O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.

B. Radioactive material identified in item 6, B, may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.

11. The Radiation Safety Officer for this license is John A. Holmes.

12. A. Licensed material shall only be used by or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D., Chairpersons, respectively.

B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.

C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.

D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

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U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 6 PAGES
Amendment No. 22

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, 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>Licensee</p> <p>1. Department of Veterans Affairs Veterans Affairs Palo Alto Health Care System</p> <p>2. 3801 Miranda Avenue Palo Alto, CA 94304</p>	<p>In accordance with letter dated April 20, 1998,</p> <p>3. License number 04-23242-01 is amended in its entirety to read as follows:</p> <p>4. Expiration date November 30, 2001</p> <p>5. Docket No. 030-20404 Reference No. <u>0</u></p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material with atomic numbers 3-83 and a half life of less than 120 days except as noted below:</p> <p>B. Hydrogen-3</p> <p>C. Technetium-99m</p> <p>D. Molybdenum-99</p> <p>E. Gadolinium-153</p> <p>F. Iodine-131</p> <p>G. Iodine-125</p> <p>H. Iodine-125</p> <p>I. Carbon-14</p> <p>J. Chlorine-36</p> <p>K. Calcium-45</p> <p>L. Iron-55</p> <p>M. Strontium-90</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Sealed sources</p> <p>F. Any</p> <p>G. Any</p> <p>H. Sealed sources</p> <p>I. Any</p> <p>J. Any</p> <p>K. Any</p> <p>L. Any</p> <p>M. Any</p>
	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.</p> <p>B. 1 curie</p> <p>C. 4.5 curies</p> <p>D. 4.5 curies</p> <p>E. 2.0 curies</p> <p>F. 600 millicuries</p> <p>G. 400 millicuries</p> <p>H. Not to exceed 400 millicuries per source</p> <p>I. 300 millicuries</p> <p>J. 1 millicurie</p> <p>K. 10 millicuries</p> <p>L. 10 millicuries</p> <p>M. 1 millicurie</p>

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U.S. NUCLEAR REGULATORY COMMISSION

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
04-23242-01Docket or Reference Number
030-20404

Amendment No. 22

- | | | |
|---|----------------------------------|--|
| 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 |
| N. Cesium-137 | N. Sealed sources | N. 300 millicuries |
| O. Strontium-85 | O. Any | O. 1.5 curies |

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.
- B. Radioactive material identified in item 6.H. may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D., Chairpersons, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 6 PAGES
Amendment No. 23**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, 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.

Licensee 1. Department of Veterans Affairs Veterans Affairs Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, CA 94304		In accordance with letter dated August 14, 1998 3. License number 04-23242-01 is amended in its entirety to read as follows: 4. Expiration date November 30, 2001 5. Docket No. 030-20404 Reference No.
6. Byproduct, source, and/or special nuclear material A. Any byproduct material with atomic numbers 3-83 and a half life of less than 120 days except as noted below: B. Hydrogen-3 C. Technetium-99m D. Molybdenum-99 E. Gadolinium-153 F. Iodine-131 G. Iodine-125 H. Iodine-125 I. Carbon-14 J. Chlorine-36 K. Calcium-45 L. Iron-55 M. Strontium-90 N. Cesium-137	7. Chemical and/or physical form A. Any B. Any C. Any D. Any E. Sealed sources F. Any G. Any H. Sealed sources I. Any J. Any K. Any L. Any M. Any N. Sealed sources	8. Maximum amount that licensee may possess at any one time under this license A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies. B. 1 curie C. 4.5 curies D. 4.5 curies E. 2.0 curies F. 600 millicuries G. 400 millicuries H. Not to exceed 400 millicuries per source I. 300 millicuries J. 1 millicurie K. 10 millicuries L. 10 millicuries M. 1 millicurie N. 300 millicuries

NRC FORM 374A

U.S. NUCLEAR REGULATORY COMMISSION

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
04-23242-01Docket or Reference Number
030-20404

Amendment No. 23

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
- O. Strontium-85 O. Any O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.
- B. Radioactive material identified in item 6.H, may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is John A. Holmes.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D. Chairpersons, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

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, 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. Department of Veterans Affairs Veterans Affairs Palo Alto Health Care System</p> <p>2. 3801 Miranda Avenue Palo Alto, CA 94304</p>	<p>In accordance with letter dated January 4, 2000</p> <p>3. License number 04-23242-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date November 30, 2001</p> <hr/> <p>5. Docket No. 030-20404 Reference No.</p>	
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material with atomic numbers 3-83 and a half life of less than 120 days except as noted below:</p> <p>B. Hydrogen-3</p> <p>C. Technetium-99m</p> <p>D. Molybdenum-99</p> <p>E. Gadolinium-153</p> <p>F. Iodine-131</p> <p>G. Iodine-125</p> <p>H. Iodine-125</p> <p>I. Carbon-14</p> <p>J. Chlorine-36</p> <p>K. Calcium-45</p> <p>L. Iron-55</p> <p>M. Strontium-90</p> <p>N. Cesium-137</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Sealed sources</p> <p>F. Any</p> <p>G. Any</p> <p>H. Sealed sources</p> <p>I. Any</p> <p>J. Any</p> <p>K. Any</p> <p>L. Any</p> <p>M. Any</p> <p>N. Sealed sources</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 300 millicuries of each radionuclide with atomic numbers 3 to 83 except as specified in Subitems 8.B through 8.M below. Total possession limit for Subitems 6.A not to exceed 5 curies.</p> <p>B. 1 curie</p> <p>C. 4.5 curies</p> <p>D. 4.5 curies</p> <p>E. 2.0 curies</p> <p>F. 600 millicuries</p> <p>G. 400 millicuries</p> <p>H. Not to exceed 400 millicuries per source</p> <p>I. 300 millicuries</p> <p>J. 1 millicurie</p> <p>K. 10 millicuries</p> <p>L. 10 millicuries</p> <p>M. 1 millicurie</p> <p>N. 300 millicuries</p>

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

04-23242-01

Docket or Reference Number

030-20404

Amendment No. 24

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
- O. Strontium-85 O. Any O. 1.5 curies

9. Authorized use

A. through O. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory Research. Research in animals. Instrument calibration.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California; or at the V.A. Medical Center, 4951 Arroyo Road, Livermore, California.
- B. Radioactive material identified in item 6.H. may also be used at the Department of Veterans Affairs Medical Center, 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is Norman L. McElroy.
12. A. Licensed material shall only be used by, or under the supervision of, individuals designated by the School of Medicine Clinical Radiation Safety Committees, (Human and Non-Human Use), Luis Fajardo, M.D. and Timothy Meyer, M.D., Chairpersons, respectively.
- B. The use of licensed material in or on humans shall be by a physician, dentist, or podiatrist as defined in 10 CFR 35.2.
- C. Physicians, dentists, or podiatrists designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR Part 35 Subpart J and shall be designated by the licensee's Radiation Safety Committee.
- D. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

MATERIALS LICENSE**Amendment No. 25**

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, 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.

Licensee 1. Department of Veterans Affairs Veterans Affairs Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304		In accordance with application dated October 10, 2001 3. License number 04-23242-01 is amended in its entirety to read as follows: 4. Expiration date February 28, 2012 5. Docket No. 030-20404 Reference No.
6. Byproduct, source, and/or special nuclear material A. Any byproduct material with Atomic Numbers 3 through 83 and a half life of less than 120 days except as noted below: B. Hydrogen-3 C. Carbon-14 D. Molybdenum-99 E. Technetium-99m F. Iodine-125 G. Iodine-131 H. Any byproduct material with Atomic Numbers 1 through 83, inclusive, except as specified below I. Cesium-137 J. Iodine-125	7. Chemical and/or physical form A. Any, other than sealed sources B. Any C. Any D. Any E. Any F. Any G. Any H. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) I. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) J. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State)	8. Maximum amount that licensee may possess at any one time under this license A. 300 millicuries per radionuclide per with a total possession limit of 5 curies B. 1 curie C. 300 millicuries D. 4.5 curies E. 4.5 curies F. 400 millicuries G. 600 millicuries H. Not to exceed 1.5 curies per source with total possession not to exceed 10 curies I. 300 millicuries J. Not to exceed 400 millicuries per source

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
04-23242-01Docket or Reference Number
030-20404

Amendment No. 25

- | | | |
|---|---|--|
| 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 |
| K. Chlorine-36 | K. Any | K. 1 millicurie |
| L. Gadolinium-153 | L. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) | L. 2 curies |
| M. Calcium-45 | M. Any | M. 10 millicuries |
| N. Iron-55 | N. Any | N. 10 millicuries |
| O. Strontium-90 | O. Any | O. 1 millicurie |
| P. Strontium-85 | P. Any | P. 1.5 curies |

9. Authorized Use:

- A. through P. Medical diagnosis, therapy, and research in humans. Research and development as defined in Section 30.4 of 10 CFR Part 30. Animal studies. Student instruction. Instrument calibration.

CONDITIONS

10. A. Licensed material may be used or stored only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California.
- B. Licensed material may be stored incident to decommissioning at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 4951 Arroyo Road, Livermore, California and 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is Norman L. McElroy.
12. A. The use of licensed material in or on humans shall be by an authorized user as defined in 10 CFR 35.2.
- B. Individuals designated to work as authorized users, as defined in 10 CFR 35.2, shall meet the training, experience, and recency of training criteria established in 10 CFR Part 35, and shall be designated, in writing, by the licensee's Radiation Safety Committee.
- C. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

MATERIALS LICENSE

Amendment No. 26

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, 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. Department of Veterans Affairs Veterans Affairs Palo Alto Health Care System</p> <p>2. 3801 Miranda Avenue Palo Alto, California 94304</p>	<p>In accordance with letter dated June 19, 2002</p> <p>3. License number 04-23242-01 is amended in its entirety to read as follows:</p> <p>4. Expiration date February 29, 2012</p> <p>5. Docket No. 030-20404 Reference No.</p>	
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material with Atomic Numbers 3 through 83 and a half life of less than 120 days except as noted below:</p> <p>B. Hydrogen-3</p> <p>C. Carbon-14</p> <p>D. Molybdenum-99</p> <p>E. Technetium-99m</p> <p>F. Iodine-125</p> <p>G. Iodine-131</p> <p>H. Any byproduct material with Atomic Numbers 1 through 83, inclusive, except as specified below</p> <p>I. Cesium-137</p> <p>J. Iodine-125</p> <p>K. Chlorine-36</p>	<p>7. Chemical and/or physical form</p> <p>A. Any, other than sealed sources</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Any</p> <p>F. Any</p> <p>G. Any</p> <p>H. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State)</p> <p>I. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State)</p> <p>J. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State)</p> <p>K. Any</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 300 milliCuries per radionuclide per with a total possession limit of 5 Curies</p> <p>B. 1 Curie</p> <p>C. 300 milliCuries</p> <p>D. 4.5 Curies</p> <p>E. 4.5 Curies</p> <p>F. 400 milliCuries</p> <p>G. 600 milliCuries</p> <p>H. Not to exceed 1.5 Curies per source with total possession not to exceed 10 Curies</p> <p>I. 300 milliCuries</p> <p>J. Not to exceed 400 milliCuries per source</p> <p>K. 1 milliCurie</p>

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

04-23242-01

Docket or Reference Number

030-20404

Amendment No. 26

- | | | |
|---|---|--|
| 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 |
| L. Gadolinium-153 | L. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) | L. 2 Curies |
| M. Calcium-45 | M. Any | M. 10 milliCuries |
| N. Iron-55 | N. Any | N. 10 milliCuries |
| O. Strontium-90 | O. Any | O. 1 milliCurie |
| P. Strontium-85 | P. Any | P. 1.5 Curies |

9. Authorized Use:

- A. through P. Medical diagnosis, therapy, and research in humans. Research and development as defined in Section 30.4 of 10 CFR Part 30. Animal studies. Student instruction. Instrument calibration.

CONDITIONS

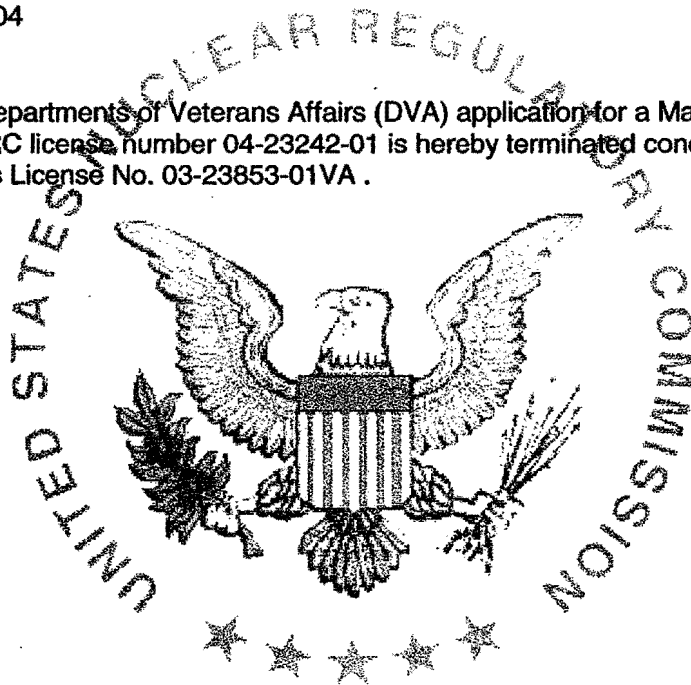
10. A. Licensed material may be used or stored only at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 3801 Miranda Avenue, Palo Alto, California.
- B. Licensed material may be stored incident to decommissioning at the licensee's facilities located at the Department of Veterans Affairs Medical Center, 4951 Arroyo Road, Livermore, California and 795 Willow Road, Menlo Park, California.
11. The Radiation Safety Officer for this license is Lance J. Phillips.
12. A. The use of licensed material in or on humans shall be by an authorized user as defined in 10 CFR 35.2.
- B. Individuals designated to work as authorized users, as defined in 10 CFR 35.2, shall meet the training, experience, and recentness of training criteria established in 10 CFR Part 35, and shall be designated, in writing, by the licensee's Radiation Safety Committee.
- C. Licensed material for other than human use shall be used by or under the supervision of individuals designated by the Radiation Safety Committee.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
04-23242-01Docket or Reference Number
030-20404

Amendment No. 27

Department of Veterans Affairs
Veterans Affairs Palo Alto Health Care System
3801 Miranda Avenue
Palo Alto, California 94304

In accordance with the Department of Veterans Affairs (DVA) application for a Master materials license dated September 21, 1998, NRC license number 04-23242-01 is hereby terminated concurrent with the issuance of the DVA Master Materials License No. 03-23853-01VA.



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date March 17, 2003

By

Anthony D. Gaines, Health Physicist
Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011

Department of Veterans Affairs

Page 1 of 4 pages	MATERIALS PERMIT	Amendment No. 28
In accordance with VHA Directive and Handbook 1105.1, and in reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304	3. In accordance with your request received April 7, 2003 , Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: February 28, 2012 5. Docket or Reference Number: 030-20404	

- | | | |
|---|--|--|
| 6. Byproduct, source, and/or special nuclear material

A. Any byproduct material with atomic numbers 1-83

B. Hydrogen 3

C. Strontium 85

D. Molybdenum 99

E. Technetium 99m

F. Iodine 125

G. Iodine 131

H. Any byproduct material with atomic numbers 3-83

I. Gadolinium 153 | 7. Chemical and/or physical form

A. Any

B. Any

C. Any

D. Any

E. Any

F. Any

G. Any

H. Sealed sources

I. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) | 8. Maximum amount permittee may possess at any one time under this permit

A. 300 millicuries per radionuclide and 15 curies total

B. 1 curie

C. 1.5 curies

D. 4.5 curies

E. 4.5 curies

F. 400 millicuries

G. 1 curie

H. 1.5 curies per radionuclide and 15 curies total

I. 2 curies |
|---|--|--|

9. Authorized Use:
- A. through P. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.

CONDITIONS

10. A. Permitted material shall be used only at the permittee's facilities located at 3801 Miranda Avenue, Palo Alto, California.
- B. **Permitted material may be stored incident to decommissioning at the permittee's facilities located at 795 Willow Road, Menlo Park, California.**
11. A. The Radiation Safety Officer for this permit is Lance J. Phillips.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 29
In accordance with VHA Directive and Handbook 1105.1, and in reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
<p style="text-align: center;">Permittee</p> <p>1. VA Palo Alto Health Care System</p> <p>2. 3801 Miranda Avenue</p> <p style="padding-left: 20px;">Palo Alto, California 94304</p>	<p>3. In accordance with your request of November 21, 2003, Permit Number 04-23242-01 is amended to read as follows:</p> <hr/> <p>4. Expiration date: February 28, 2012</p> <hr/> <p>5. Docket or Reference Number: 030-20404</p>	

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount permittee may possess at any one time under this permit
A. Any byproduct material with Atomic Numbers 1-83	A. Any	A. 300 millicuries per radionuclide and 15 curies total
B. Hydrogen 3	B. Any	B. 1 curie
C. Strontium 85	C. Any	C. 1.5 curies
D. Molybdenum-99	D. Any	D. 4.5 curies
E. Technetium 99m	E. Any	E. 4.5 curies
F. Iodine 125	F. Any	F. 400 millicuries
G. Iodine 131	G. Any	G. 1 curie
H. Any byproduct material with Atomic Numbers 3-83	H. Sealed sources	H. 1.5 curies per radionuclide and 15 curies total
I. Gadolinium 153	I. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State)	I. 2 curies
J. Cesium 137	J. Sealed sources (J. L. Shepherd and Associates Model 6810)	J. 2,200 curies

9. Authorized Use:

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 30
In accordance with VHA Directive 1105.1 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304	3. In accordance with NRSC meeting of January 31, 2005 , Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: February 28, 2012 5. Docket or Reference Number: 030-20404	

- | 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount permittee may possess at any one time under this permit |
|---|---|---|
| A. Any byproduct material with Atomic Numbers 1-83 | A. Any | A. 300 millicuries per radionuclide and 15 curies total |
| B. Hydrogen 3 | B. Any | B. 1 curie |
| C. Strontium 85 | C. Any | C. 1.5 curies |
| D. Molybdenum 99 | D. Any | D. 4.5 curies |
| E. Technetium 99m | E. Any | E. 4.5 curies |
| F. Iodine 125 | F. Any | F. 400 millicuries |
| G. Iodine 131 | G. Any | G. 1 curie |
| H. Any byproduct material with Atomic Numbers 3-83 | H. Sealed sources | H. 1.5 curies per radionuclide and 15 curies total |
| I. Gadolinium 153 | I. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) | I. 2 curies |
| J. Cesium 137 | J. Sealed sources (J. L. Shepherd and Associates Model 6810) | J. 2,200 curies |

9. Authorized Use:

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 31
In accordance with VHA Directive 1105.1 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304	3. In accordance with NRC EA-05-090 of November 14, 2005 , Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: February 28, 2012 5. Docket or Reference Number: 030-20404	

- | 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount permittee may possess at any one time under this permit |
|---|---|---|
| A. Any byproduct material with Atomic Numbers 1-83 | A. Any | A. 300 millicuries per radionuclide and 15 curies total |
| B. Hydrogen 3 | B. Any | B. 1 curie |
| C. Strontium 85 | C. Any | C. 1.5 curies |
| D. Molybdenum 99 | D. Any | D. 4.5 curies |
| E. Technetium 99m | E. Any | E. 4.5 curies |
| F. Iodine 125 | F. Any | F. 400 millicuries |
| G. Iodine 131 | G. Any | G. 1 curie |
| H. Any byproduct material with Atomic Numbers 3-83 | H. Sealed sources | H. 1.5 curies per radionuclide and 15 curies total |
| I. Gadolinium 153 | I. Sealed sources (registered either with NRC under 10 CFR 32.210 or with an Agreement State) | I. 2 curies |
| J. Cesium 137 | J. Sealed sources (J. L. Shepherd and Associates Model 6810) | J. 2,200 curies |

9. Authorized Use:

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 32
In accordance with VHA Directive 1105.1 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304-1290	3. In accordance with your request of May 18, 2007, Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: September 30, 2012 5. Docket or Reference Number: 030-20404	

- | | | |
|---|---|--|
| 6. Byproduct, source, and/or special nuclear material

A. Any byproduct material with Atomic Numbers 1-83

B. Hydrogen 3
C. Strontium 85
D. Molybdenum 99
E. Technetium 99m
F. Iodine 125
G. Iodine 131
H. Any byproduct material with Atomic Numbers 3-83
I. Cesium 137 | 7. Chemical and/or physical form

A. Any

B. Any
C. Any
D. Any
E. Any
F. Any
G. Any
H. Sealed sources
I. Sealed sources (J. L. Shepherd and Associates Model 6810) | 8. Maximum amount permittee may possess at any one time under this permit

A. 300 millicuries per radionuclide, and 15 curies total
B. 1 curie
C. 1.5 curies
D. 10 curies
E. 10 curies
F. 400 millicuries
G. 1 curie
H. 2 curies per radionuclide, and 15 curies total
I. 2,200 curies |
|---|---|--|

9. Authorized Use:

- A. through H. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- I. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210, or by an Agreement State.

CONDITIONS

- 10. Permitted material shall be used only at the permittee's facilities located at 3801 Miranda Avenue, Palo Alto, California.
- 11. A. The Radiation Safety Officer for this permit is Lance J. Phillips, CHP.
 B. The use of permitted material in or on humans shall be by an authorized user as defined in 10 CFR 35.2.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 33
In accordance with VHA Directive 1105.1 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304-1290	3. In accordance with NRSC meeting of August 8, 2007 , Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: September 30, 2017 5. Docket or Reference Number: 030-20404	

- | 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount permittee may possess at any one time under this permit |
|---|--|---|
| A. Any byproduct material with Atomic Numbers 1-83 | A. Any | A. 300 millicuries per radionuclide, and 15 curies total |
| B. Hydrogen 3 | B. Any | B. 1 curie |
| C. Strontium 85 | C. Any | C. 1.5 curies |
| D. Molybdenum 99 | D. Any | D. 10 curies |
| E. Technetium 99m | E. Any | E. 10 curies |
| F. Iodine 125 | F. Any | F. 400 millicuries |
| G. Iodine 131 | G. Any | G. 1 curie |
| H. Fluorine 18 | H. Any | H. 10 curies |
| I. Any byproduct material with Atomic Numbers 3-83 | I. Sealed sources | I. 2 curies per radionuclide, and 15 curies total |
| J. Cesium 137 | J. Sealed sources (J. L. Shepherd and Associates Model 6810) | J. 2,200 curies |

9. Authorized Use:

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210, or by an Agreement State.

CONDITIONS

10. Permitted material shall be used only at the permittee's facilities located at 3801 Miranda Avenue, Palo Alto, California.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 34
In accordance with VHA Directive 1105.1 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304-1290	3. In accordance with National Radiation Safety Committee meeting of February 4, 2009 , Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: September 30, 2017 5. Docket or Reference Number: 030-20404	

- | | | |
|--|--|--|
| 6. Byproduct, source, and/or special nuclear material

A. Any byproduct material with Atomic Numbers 1-83

B. Hydrogen 3
C. Strontium 85
D. Molybdenum 99
E. Technetium 99m
F. Iodine 125
G. Iodine 131
H. Fluorine 18
I. Any byproduct material with Atomic Numbers 3-83
J. Cesium 137 | 7. Chemical and/or physical form

A. Any

B. Any
C. Any
D. Any
E. Any
F. Any
G. Any
H. Any
I. Sealed sources
J. Sealed sources (J. L. Shepherd and Associates Model 6810) | 8. Maximum amount permittee may possess at any one time under this permit

A. 300 millicuries (mCi) per radionuclide, and 15 curies (Ci) total

B. 1 Ci
C. 1.5 Ci
D. 10 Ci
E. 10 Ci
F. 400 mCi
G. 1 Ci
H. 10 Ci
I. 2 Ci per radionuclide, and 15 Ci total
J. 2,200 Ci |
|--|--|--|

9. Authorized Use:

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210, or by an Agreement State.

CONDITIONS

10. Permitted material shall be used only at the permittee's facilities located at 3801 Miranda Avenue, Palo Alto, California.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 35
In accordance with VHA Directive 1105.01 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304-1290	3. In accordance with your request of May 26, 2010 , Permit Number 04-23242-01 is amended to read as follows: 4. Expiration date: September 30, 2017 5. Docket or Reference Number: 030-20404	

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount permittee may possess at any one time under this permit
A. Any byproduct material with Atomic Numbers 1-83	A. Any	A. 300 millicuries (mCi) per radionuclide, and 15 curies (Ci) total
B. Hydrogen 3	B. Any	B. 1 Ci
C. Strontium 85	C. Any	C. 1.5 Ci
D. Molybdenum 99	D. Any	D. 10 Ci
E. Technetium 99m	E. Any	E. 10 Ci
F. Iodine 125	F. Any	F. 400 mCi
G. Iodine 131	G. Any	G. 1 Ci
H. Fluorine 18	H. Any	H. 10 Ci
I. Any byproduct material with Atomic Numbers 3-83	I. Sealed sources	I. 2 Ci per radionuclide, and 15 Ci total
J. Cesium 137	J. Sealed sources (J. L. Shepherd and Associates Model 6810)	J. 2,200 Ci

9. Authorized Use.

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210, or by an Agreement State.

CONDITIONS

- 10. Permitted material shall be used only at the permittee's facilities located at 3801 Miranda Avenue, Palo Alto, California.

Department of Veterans Affairs

Page 1 of 5 pages	MATERIALS PERMIT	Amendment No. 36
In accordance with VHA Directive 1105.01 and reliance on statements made by the applicant, permission is hereby granted to receive, possess, transfer, and store radioactive materials listed below, and to use this material for the purpose and at the places listed below.		
Permittee 1. VA Palo Alto Health Care System 2. 3801 Miranda Avenue Palo Alto, California 94304-1290	3. In accordance with your request of December 15, 2011 , Permit Number 04-23242-01 is amended to read as follows. 4. Expiration date: September 30, 2017 5. Docket or Reference Number: 030-20404	

- | | | |
|---|---|---|
| 6. Byproduct, source, and/or special nuclear material

A. Any byproduct material with Atomic Numbers 1-83

B. Hydrogen 3

C. Strontium 85

D. Molybdenum 99

E. Technetium 99m

F. Iodine 125

G. Iodine 131

H. Fluorine 18

I. Any byproduct material with Atomic Numbers 3-83

J. Cesium 137 | 7. Chemical and/or physical form

A. Any

B. Any

C. Any

D. Any

E. Any

F. Any

G. Any

H. Any

I. Sealed sources

J. Sealed sources (J. L. Shepherd and Associates Model 6810) | 8. Maximum amount permittee may possess at any one time under this permit

A. 300 millicuries (mCi) per radionuclide, and 15 curies (Ci) total

B. 1 Ci

C. 1.5 Ci

D. 10 Ci

E. 10 Ci

F. 400 mCi

G. 1 Ci

H. 10 Ci

I. 2 Ci per radionuclide, and 15 Ci total

J. 2,200 Ci |
|---|---|---|

9. Authorized Use.

- A. through I. Medical diagnosis, therapy, and research in humans. Research and development as defined in 10 CFR 30.4, including animal studies, instrument calibration, student instruction, and *in vitro* studies.
- J. For the irradiation of materials in a J. L. Shepherd and Associates Mark I Irradiator in accordance with the certificate of registration issued by the Nuclear Regulatory Commission under 10 CFR 32.210, or by an Agreement State.

CONDITIONS

10. Permitted material shall be used only at the permittee's facilities located at 3801 Miranda Avenue, Palo Alto, California.

KELLY MAYO 5012571571 VHA NATIONAL HEALTH PHYSICS PR 2200 FT ROOTS DR B101 R208D NORTH LITTLE ROCK AR 72114		1.0 LBS LTR	1 OF 1
SHIP TO: KEVIN NULL 5012571571 NUCLEAR REGULATORY COMMISSION REGION 3 DIVISION OF NUCLEAR MATERIALS SAFET 2443 WARRENVILLE RD, SUITE 210 LISLE IL 60532-4352			
	IL 603 9-03 		
UPS NEXT DAY AIR		1	
TRACKING #: 1Z A47 7F5 01 9317 7576			
			
BILLING: P/P			
Reference # 1: KRM			
CS 14.1.10. WXP1E70 24.0A 01/2012			