NRC FORM 374
(7-94)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 23

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.

OFFICIAL RECORD COPY

Licensee	
1. University of Connecticut Department of Environmental Health and Safety 2. 189 Auditorium Road, U97 Storrs, Connecticut 06269-3097	In accordance with the application dated January 11, 1996, 3. License Number 06-01450-47 is amended in its entirety to read as follows: 4. Expiration Date September 30, 2005 5. Docket or Reference No 030-10576

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 number 1 through 83 with half life less than or equal to 120 days	A. Any	A. Not to exceed 500 millicuries per radionuclide and 30 curies total
B. Any byproduct material with atomic numbers 1 through 83 with half life greater than 120 days	B. Any	B. See Condition 13
C. Any byproduct material with atomic numbers 1 through 83 with half life greater than 120 days	C. Sealed or plated sources	C. Not to exceed 200 millicuries per source and 1 curie total
D. Hydrogen 3	D. Foils (Sentex Sensing Technology, Inc. Model 50319)	D. Not to exceed 150 millicuries per foil and 600 millicuries total
E. Hydrogen 3	E. Foils (Analytical Instrument Model 510-6007 or Thermo Electron Instruments Model 511A)	E. Not to exceed 200 millicuries per foil and 800 millicuries total
F. Cesium 137	F. Sealed source (Amersham Searle Model 850233)	F. 500 millicuries
G. Cesium 137	G. Sealed source (Amersham Corp. Model 2000)	G. 100 millicuries
H. Cesium 137	H. Sealed source (Nuclear-Chicago Model RR-138)	H. 3 millicuries
I. Cesium 137	I. Sealed sources (Troxler Dwg. No. A-102112)	I. Not to exceed 10 millicuries per source and 100 millicuries total

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number: 06-01450-47
Docket or Reference Number: 030-10576
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.
J. Bismuth 207	J. Sealed source	J. 1 microcurie
K. Polonium 210	K. Sealed source	K. 1 microcurie
L. Actinium 227	L. Sealed or plated source	L. 1 millicurie
M. Uranium 238	M. Sealed source	M. 1 microcurie
N. Americium 241	N. Sealed neutron sources (Troxler Dwg. A-102451; Sealed sources registered pursuant to 10 CFR 32.210 or Agreement State)	N. Not to exceed 50 millicuries per source and 500 millicuries total
O. Americium 241	O. Sealed or plated source	O. 1 millicurie
P. Curium 244	P. Sealed source	P. 1 millicurie
Q. Cesium 137	Q. Sealed source (J.L. Shepherd Model 6810)	Q. 1.2 curies

9. Authorized use

A., B., C., D., E., H. through P. Research and development as defined in 10 CFR 30.4; animal studies. Teaching and training of students.
F. For storage only.
G. For use in Nuclear Associates, Inc. Model 64-764 calibrator for calibration of instruments.
Q. For use in J.L. Shepherd Model 28-6A calibrator for calibration of instruments.

CONDITIONS

10. A. Licensed material may be used only at the licensee's facilities located at the campuses of the University of Connecticut: Storrs, Connecticut; Avery Point, Groton, Connecticut; Scofieldtown Road, Stamford, Connecticut; 85 Lawler Road, West Hartford, Connecticut; 32 Hillside Avenue, Waterbury, Connecticut; Marine Sciences Institute, Building 77, Avery Point, Groton, Connecticut; Noank Marine Research Laboratory, Noank, Connecticut; University Drive, Torrington, Connecticut and Mansfield Training School, Mansfield, Connecticut.

B. Licensed material listed in Subitems 6.D., 6.E., 6.I., and 6.N. may also be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

C. Licensed material listed in Subitem 6.H. may also be used at temporary job sites of the licensee anywhere in the State of Connecticut.

11. Licensed material shall be used by, or under the supervision of, individuals designated in writing by the Radiation Safety Committee, Linda Strausbaugh, Ph.D., Chairperson.

12. The Radiation Safety Officer for this license is Edward L. Wilds, Jr.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

13. A. If only one radionuclide is possessed, the possession limit is the quantity specified for that radionuclide in 10 CFR 33.100, Schedule A, Column I. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR 33.100, Schedule A, Column I, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed unity.

B. Notwithstanding Paragraph A of this Condition and 10 CFR 33.100, Schedule A, Column I,

a) the applicable quantities for the following radionuclides are reduced to:

Carbon 14	10 curies
Krypton 85	10 curies
Iodine 129	10 millicuries
Any byproduct material other than alpha emitting byproduct material not listed in 10 CFR 33.100, Schedule A	10 millicuries

b) the following radionuclide is added:

Americium 241	50 microcuries

14. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material at a single location to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for responding to a release of licensed material.

15. Licensed material shall not be used in or on human beings.

16. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.

17. A. Sealed sources and detector cells containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed three years.

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 three months.

C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.

D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.

E. Sealed sources and detector cells need not be leak tested if:

(i) they contain only hydrogen-3; or

(ii) they contain only a radioactive gas; or

(iii) the half-life of the isotope is 30 days or less; or

(iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or

(v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source or detector cell shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source or detector cell involved, the test results, and corrective action taken.

G. The licensee is authorized to collect leak test samples for analysis by licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

18. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

19. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.

20. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license.

21. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.

22. Any cleaning, maintenance, or repair of the gauge(s) that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Commission or an Agreement State to perform such services.

23. A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperatures from exceeding that specified in the certificate of registration referred to in 10 CFR 32.210.

B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside.

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

A. Waste to be disposed of in this manner shall be held for decay a minimum of ten half-lives.

B. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

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

25. Radioactive waste generated shall be stored in accordance with the statements, representations and procedures included with the waste storage plan described in the licensee's letter/application dated July 22, 1995.

26. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number: 06-01450-47

Docket or Reference Number: 030-10576

Amendment No. 23

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

A. Application dated July 22, 1994
B. Letter dated February 2, 1995
C. Letter dated April 18, 1995
D. Letter dated July 11, 1995
E. Letter dated September 26, 1995
F. Letter dated January 11, 1996
G. Letter dated June 27, 1996

Date AUG - 2 1996

For the U.S. Nuclear Regulatory Commission

By Original Signed By:
John D. Kinneman

Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

AUG - 2 1996

Mr. Edward L. Wilds, Jr.
Radiation Safety Manager
University of Connecticut
Department of Environmental
Health and Safety
189 Auditorium Road, U97
Storrs, CT 06269-3097

Dear Mr. Wilds:

This refers to your license amendment request. Enclosed with this letter is the amended license. Please note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license.

Your request to add actinium 227 as sealed or plated sources, americium 241 as unsealed sources, polonium 208 and polonium 209 has been reviewed. Actinium 227 has been added as Item L. The possession and use of americium 241 requested as unsealed sources has been added as subitem 13.B.b. in Condition 13. This approach requires no change in your financial assurance. Both polonium 208 and polonium 209 are accelerator produced and do not need to be added to your byproduct material license. The accelerator produced materials that you requested are controlled by the State of Connecticut. You should contact the State of Connecticut regarding the licensing and use of accelerator produced radioactive material.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY:

John D. Kinneman, Chief
Nuclear Material Safety Branch 2
Division of Nuclear Materials Safety

License No. 06-01450-47
Docket No. 030-10576
Control No. 122808

OFFICIAL RECORD COPY **ML 10**

Enclosure:
Amendment No. 23

DOCUMENT NAME: R:\WPS\MLTR\L0601450.47
To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI	N				
NAME	JBondick/jmb		JKinneman					
DATE	08/02/96		08/ 2 /96		08/ /96		08/ /96	

OFFICIAL RECORD COPY

TELEPHONE CONVERSATON RECORD	Date: 7/29/96	Time:11:00 .am.
Mail Control No.: 122808	**License No.:** 06-01450-47	**Docket No.:** 030-10576
Person Called: Mr. Edward Wilds, Jr. RSO	**Organization:** U of CT	**Telephone Number: 203-486-3613**
Person Calling: Jim Bondick	**Organization:** NRC	**Telephone Number: 6951**
Subject: Clarification of limits of items requested.		
Summary: Inquired from Mr. Wilds about the amount of unsealed Am 241 he needs to have listed. He stated that they will only need microcurie amounts. Also inquired about the reason for the any byproduct material, 1-83 with half lives greater than 120 days as sealed or plated sources with amounts not to exceed 200 millicuries per source and 5 curies total. His respo was that he had a researcher who might be using up to 200 millicuries, he agreed that 1 curie would be sufficient.		
Action Required/Taken: Note to File		
Signature: Bondick	**Date:** 7/29/96	

UNIVERSITY OF

CONNECTICUT

Q6
MS-16

ENVIRONMENTAL HEALTH AND SAFETY

June 27, 1996

U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415
Attn.: Jim Bondick

Mail Control No. 122808
Docket No. 030-10576
License No. 06-01450-47

Subject: License Amendment Application

Dear Mr. Bondick:

Per our recent telephone conversation, The University of Connecticut is submitting a revision to its request to amend the possession limits for Material License Number 06-01450-47. Enclosed please find two copies of this revision. 10 CFR 30.35 does not require License Number 06-01450-47 to have a decommission funding plan. If you require additional information please contact me at the address below.

Sincerely,

Edward L. Wilds, Jr.
Radiation Safety Manager

Enclosure

122808

189 Auditorium Road, Room 219, U-97, Storrs, Connecticut 06269-3097 (860) 486-3613 Fax: (860) 486-1106

ITEM 5 - RADIOACTIVE MATERIAL

The University of Connecticut requests to amend items 6A, 6B, 6M, 6N, 7A, 7B, 7M, 7N, 8A, 8B, 8M, and 8N of its license.

From:

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
A) Any by product material with atomic number 1 through 83 with half lives of less than or equal to 120 days	Any	Not to exceed 500 millicuries per radionuclide and 30 curies total
B) Any byproduct material with half lives of greater than 120 days	Any	See Condition 13
M) Americium 241	Sealed Source	1 microcurie
N) Curium 244	Sealed Source	600 microcuries

To:

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
Any byproduct material with atomic number 1 through 83 with half lives of less than or equal to 120 days	Any	Not to exceed 500 millicuries per radionuclide and 30 curies total
Any byproduct material with atomic number 1 through 83 with half lives of greater than 120 days	Unsealed Sources	See Condition 13
Any byproduct material with atomic number 1 through 83 with half lives of greater than 120 days	Sealed or Plated Sources	Not to exceed 200 millicuries per source and 5 curie total.

Americium 241	Sealed or Plated sources	1 millicurie
Curium 244	Sealed or Plated sources	1 millicurie

The University of Connecticut requests to add the following to items 6, 7, and 8 of its license.

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
Actinium 227	Sealed or Plated Sources	1 millicurie
Americium 241	Unsealed Sources	The smaller of the limit specified in condition 13 or 10 microcuries
Polonium 208	Sealed or Plated Sources	1 millicurie
Polonium 209	Sealed or Plated Sources	1 millicurie

The University of Connecticut requests to amend License Condition 13A and 13B of its license.

From:

A. If only one radionuclide is possessed, the possession limit is the quantity specified for that radionuclide in 10 CFR 33.100, Schedule A, Column I. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR 33.100, Schedule A, Column I, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed unity.

B. Notwithstanding Paragraph A of this Condition and 10 CFR 33.100, Schedule A, Column I, the applicable quantities for the following radionuclides are reduced to :

Carbon 14	10 Curies
Krypton 85	10 Curies
Iodine 129	10 millicuries

Any byproduct material other than alpha emitting byproduct material not listed in 10 CFR 33.100, Schedule A	10 millicuries

To:

A. If only one radionuclide is possessed, the possession limit is 10^5 times the quantity specified for that radionuclide in 10 CFR Part 30 Appendix B. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR Part 30 Appendix B, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed 10^5.

ITEM 5 - RADIOACTIVE MATERIAL

The University of Connecticut requests to amend items 6A, 6B, 6M, 6N, 7A, 7B, 7M, 7N, 8A, 8B, 8M, and 8N of its license.

From:

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
A) Any by product material with atomic number 1 through 83 with half lives of less than or equal to 120 days	Any	Not to exceed 500 millicuries per radionuclide and 30 curies total
B) Any byproduct material with half lives of greater than 120 days	Any	See Condition 13
M) Americium 241	Sealed Source	1 microcurie
N) Curium 244	Sealed Source	600 microcuries

To:

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
Any byproduct material with atomic number 1 through 83 with half lives of less than or equal to 120 days	Any	Not to exceed 500 millicuries per radionuclide and 30 curies total
Any byproduct material with atomic number 1 through 83 with half lives of greater than 120 days	Unsealed Sources	See Condition 13
Any byproduct material with atomic number 1 through 83 with half lives of greater than 120 days	Sealed or Plated Sources	Not to exceed 200 millicuries per source and 5 curie total.

Americium 241	Sealed or Plated sources	1 millicurie
Curium 244	Sealed or Plated sources	1 millicurie

The University of Connecticut requests to add the following to items 6, 7, and 8 of its license.

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
Actinium 227	Sealed or Plated Sources	1 millicurie
Americium 241	Unsealed Sources	The smaller of the limit specified in condition 13 or 10 microcuries
Polonium 208	Sealed or Plated Sources	1 millicurie
Polonium 209	Sealed or Plated Sources	1 millicurie

The University of Connecticut requests to amend License Condition 13A and 13B of its license.

From:

A. If only one radionuclide is possessed, the possession limit is the quantity specified for that radionuclide in 10 CFR 33.100, Schedule A, Column I. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR 33.100, Schedule A, Column I, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed unity.

B. Notwithstanding Paragraph A of this Condition and 10 CFR 33.100, Schedule A, Column I, the applicable quantities for the following radionuclides are reduced to :

Carbon 14	10 Curies
Krypton 85	10 Curies
Iodine 129	10 millicuries

Any byproduct material other than alpha emitting byproduct material not listed in 10 CFR 33.100, Schedule A	10 millicuries

To:

A. If only one radionuclide is possessed, the possession limit is 10^5 times the quantity specified for that radionuclide in 10 CFR Part 30 Appendix B. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR Part 30 Appendix B, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed 10^5.

TELEPHONE CONVERSATON RECORD	Date: 6/18/96	Time:3:30 p.m.
Mail Control No.: 122808	**License No.:** 06-01450-47	**Docket No.:** 030-10576
Person Called: Mr. Edward Wilds, RSO	**Organization:** University of Connecticut	**Telephone Number:**203-486-3613
Person Calling: Jim Bondick/P.Henderson	**Organization:** NRC	**Telephone Number:** 6951
Subject: Clarification of request to amend license		
Summary: Mr. Wilds will fax us a list of the alpha emitting radionulides that he wants to have added to the license.		
Action Required/Taken: MS 15		
Signature: Bondick	**Date:**6/18/96	

OFFICIAL RECORD COPY

ML 10

UNIVERSITY OF
CONNECTICUT

ENVIRONMENTAL HEALTH AND SAFETY

January 24, 1996

U.S. Nuclear Regulatory Commission, Region I
Nuclear Materials Section B
475 Allendale Road
King of Prussia, PA 19406

Re: Docket No. 030-10576
License No. 06-01450-47

Subject: License Amendment Application

Enclosed are two copies of an Application for Material License Amendment and the supporting documentation to amend Material License 06-01450-47. If you require additional information or I can provide further assistance, please contact me at the address below or telephone number (860) 486-3613.

Sincerely,

Edward L. Wilds, Jr.
Radiation Safety Manager

Enclosure

NRC FORM 313 (6-93)
10 CFR 30, 32, 33, 34, 35, 36, 39 and 40

U. S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB, NO. 3150-0120
EXPIRES 6-30-96

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137-5927

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

RADIOACTIVE MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION V
1450 MARIA LANE
WALNUT CREEK, CA 94596-5368

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- [ ] A. NEW LICENSE
- [X] B. AMENDMENT TO LICENSE NUMBER 06-01450-47
- [ ] C. RENEWAL OF LICENSE NUMBER

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include Zip code)*

The University of Connecticut
Dept. of Environmental Health & Safety
189 Auditorium Road, U-97
Storrs, CT 06269-3097

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

NO Change, see license

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Edward L. Wilds, Jr.

TELEPHONE NUMBER

(860) 486-3613

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5	RADIOACTIVE MATERIAL a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time	6	PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED
7	INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE	8	TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS
9	FACILITIES AND EQUIPMENT	10	RADIATION SAFETY PROGRAM
11	WASTE MANAGEMENT	12	LICENSEE FEES *(See 10 CFR 170 and Section 170.31)* FEE CATEGORY 10 CFR170.11(a)(4) AMOUNT ENCLOSED: $ EXEMPT

13. CERTIFICATION *(Must be completed by applicant)*. THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
Willie J. Hagan, Assoc. Vice President	Willie J. Hagan	1/11/96

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		
APPROVED BY			DATE		

122808

NRC FORM 313 (6-93)

PRINTED ON RECYCLED PAPER

OFFICIAL RECORD COPY ML 10

JAN 29 1996

ITEM 5 - RADIOACTIVE MATERIAL

The University of Connecticut request to amend items 6A, 6B, 7A, 7B, 8A, and 8B of its license.

From:

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
Any by product material with atomic number 1 through 83 with half lives of less than or equal to 120 days	Any	Not to exceed 500 millicuries per radionuclide and 30 curies total
Any byproduct material with half lives of greater than 120 days	Any	See Condition 13

To:

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum Amount that Licensee May Possess at Any One Time Under This License
Any byproduct material with atomic number 1 through 96 with half lives of less than or equal to 120 days	Any	Not to exceed 500 millicuries per radionuclide and 30 curies total
Any byproduct material with atomic number 1 through 96 with half lives of greater than 120 days	Any Unsealed Source	See Condition 13
Any byproduct material with atomic number 1 through 96 with half lives of greater than 120 days	Any Sealed or Plated Source	Not to exceed 200 millicuries per source and 5 curie total.

The University of Connecticut request to amend License Condition 13B by adding the following statement to the license condition.

Any alpha emitting byproduct material not listed in 10 CFR 33.100, Schedule A.	1 millicurie

ITEM 7 - INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE

The University requests the following changes to the Radiation Safety Committee.

Delete:	Dr. Anthony Philpotts	Geology and Geophysics
Add:	Mr. Robert F. Vieth	Biotechnology Center

Mr. Vieth's training and experience are enclosed for reference.

DATE: 6 November, 1995

TO: Edward L. Wilds, Jr.
Radiation Safety Officer

FROM: Robert F. Vieth

RE: Statement of Training and Experience

According to your request, below is a summary of my training and experience in the use of radionuclides.

TRAINING

Radiation Safety User Training, One day course, 1978, University of Connecticut Health Center.
Radiation Safety User Refresher Training, Four hour course, 1984, UCHC.
Radiation Safety Video, 1991, University of Connecticut.

EXPERIENCE

I have been a user of a variety of radionuclides during my 18 year career as a research scientist, first at the UCONN Health Center, and then at the Storrs campus. While at Farmington, I was responsible for inventory, storage, use, and disposal of radionuclides in the lab of Dr. Mary Jane Osborn, Department of Microbiology. I was also responsible for training and supervising new lab personnel in the safe handling of said nuclides.

Also during my tenure at Farmington, I served as the Health and Safety Officer for the UCHC Professional Employees Association. My responsibilities included the general health and safety of all members of the bargaining unit, including the safe use of radionuclides and other sources of ionizing radiation. I served as union representative on the Hospital Health and Safety Advisory Committee and the Center Safety Advisory Committee, which reviewed all uses of ionizing radiation.

I am currently a Licensed Investigator on the Storrs campus, and have held that license since 1992. I personally supervise the training of new lab personnel in safe handling procedures, and assure compliance with all university and federal guidelines. I believe my lab enjoys one of the best records for lab safety within the university.

attach: Curriculum Vitae

FERMENTATION AND BIOPROCESSING FACILITY
THE BIOTECHNOLOGY CENTER
The University of Connecticut

CURRICULUM VITAE

ROBERT F. VIETH

Fermentation and Separation Facility
The Biotechnology Center
The University of Connecticut
Storrs, CT 06269-3149
203-486-2590 FAX: 203-486-5005

EDUCATION

B.Sc. The University of Connecticut, Microbiology, 1977

PROFESSIONAL EXPERIENCE

1993-present — Academic Assistant III — The University of Connecticut
Continuation of duties and responsibilities as described below. Preparation of budgets, tracking of operating expenses.

1988-1993 — Academic Assistant II — The University of Connecticut
Responsible for design and installation of bench-scale fermentation facility, including fermentors to 45 liters and associated downstream processing and purification capabilities. Equipment includes batch CSTRs, fully sensored and under microprocessor control; centrifugation and filtration; and cell culture to 3 liters batch for monoclonal Ig production and purification. Additionally, lab manager duties as described below.

1978-1988 — Research Associate II — The University of Connecticut Medical Center
Lab Manager. Participated in research involving biosynthesis and assembly of cell wall components of Gram(-) bacteria. Supervised graduate students, post-doctoral fellows and junior technicians. Responsible for overall lab operations.

1981-1982 — Lecturer — St. Joseph College

1983 — Lecturer — Tunxis Community College

PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science
American Society for Microbiology
Society for Industrial Microbiology

COMMUNITY SERVICE

Boy Scouts of America

Cubmaster, Pack 47, Manchester	1990-1993
Commissioner, Algonquin District	1990-present
District Training Staff	1990-present
Manchester Memorial Hospital Volunteer	1989-1991

EXTERNAL CONSULTING

Updike, Kelly and Spellacy, P.C., Hartford, CT
Kraft-General Foods, White Plains, NY
OLIN Corporation, Cheshire, CT
The Barden Corporation, Danbury, CT

RESEARCH INTERESTS

Fermentation biochemistry, microbiology, process control and biochemical engineering; industrial and hazardous waste treatment; mechanisms of microbial adherence to surfaces; downstream processing; development and scale-up of purification protocols.

PUBLICATIONS/CONFERENCE PRESENTATIONS

Prasad, M.R., Cook. L., Vieth, R.F., and Cinti, D.L. (1984), Rat Hepatic Microsomal Acetoacetyl-CoA Reductase Distinct from the Long Chain Ketoacyl-CoA Reductase Component of the Microsomal Fatty Acid Chain Elongation System, Journal of Biological Chemistry, 259: 7460-7467.

Cook, L., Prasad, M.R., Vieth, R.F., and Cinti, D.L. (1985), Hepatic Microsomal Short-Chain B-Hydroxyacyl-CoA Dehydrase Distinct from the Fatty Acid Elongation Component: Substrate Specificity of the Membrane-Extracted Enzyme, Archives of Biochemistry and Biophysics, 236: 26-35.

Nishanian, E., Vieth, R.F., Cohen, S., and Khairallah, E., Purification of the 58kD Acetaminophen Binding Protein From Mouse Liver, Society of Toxicology, Northeast Chapter, October 14, 1988.

Coughlin, R.W., Vieth, R.F., and DiBenedetto, A.T. (1992), Polypropylene IUCD Retrieval Fibers: Surface Morphology, Material Properties, Microbial Attachment and Migration, Journal of Applied Biomaterials, 3: 99-115.

Coughlin, R.W., Williams, D., Seveau, E., Vieth, R.F. and Howes, T.D. (1992), Enumeration of Microorganisms in Metal Working Fluids Using Photometric Methods, CIRP Annals, 41:#1.

Mahmoud, W., Vieth R.F. and Coughlin, R.W. (1993), Migration of Bacteria Along Synthetic Polymeric Fibers, Journal of Biomaterials Science, 4: 567-578.

Abraham, S.M., Vieth, R.F., and Burgess, D.J. (1994), Stability of Alginate-Polylysine Beads Containing Microorganisms, Abstract, American Association of Pharmaceutical Scientists.

Abraham, S.M., Vieth, R.F., and Burgess, D.J. (1994), Axenic Alginate-Polylysine Microcapsules Prepared in a Bioreactor Using an Atomizing Device, Abstract, American Association of Pharmaceutical Scientists.

Strevett, Keith A., Vieth, Robert F., and Grasso, Domenic (1995), Chemoautotrophic Biogas Purification for Methane Enrichment, The Biochemical Engineering Journal, In Press.

FUNDING HISTORY

"Use of Differential Fluorescent Staining and Bioluminescence to Enumerate and Identify Microbial Contamination in Metal Working Fluids", The University of Connecticut, Center for Grinding Research and Development, 9/1/90-2/1/92, $38,000.

"Studies on the Migration of Microorganisms on the Surface of Synthetic Polymers", The University of Connecticut, Center for Environmental Health, 1/14/91-6/1/91, $4,000.

"Determination of Mode of Action of Omadine®", Olin Corporation Research Center, 2/1/92-6/30/93, $30,000.

"Studies of Transport and Failure Mechanisms in "Smart" Membrane Systems for Food Packaging", (with T.F. Anderson and R.J Fisher), The University of Connecticut, Center for Environmental Health, 1/1/93-6/1/93, $4,000.

"Mechanistic Studies of EM Field-Biological Species Using Photobacterium phosporeum", (with R.W. Coughlin and R.J. Fisher), The University of Connecticut, Center for Environmental Health, 1/1/93-6/1/93, $4,000.

UCRC Major Equipment Competition, Storrs Research Advisory Council, 12/92, $18,200.

"Continuing Studies on the Mode of Action of Omadine", (with R.T. Vinopal and R.W. Coughlin), Olin Corporation Research Center, 7/1/93-6/30/96, $150,000.

msword/vieth1 10/95

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 01100
STATUS CODE: 0
FEE CATEGORY: EX 3L
EXP. DATE: 20000930
FEE COMMENTS: 170.11(A)(4)
DECOM FIN ASSUR REQD: Y

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: CONNECTICUT, UNIVERSITY OF
RECEIVED DATE: 960129
DOCKET NO: 3010576
CONTROL NO.: 122803
LICENSE NO.: 06-01450-47
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: ---
CHECK NO.: ---

3. COMMENTS

SIGNED M. A. Perkins
DATE 1/30/96

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED / ✓ /)

1. FEE CATEGORY AND AMOUNT: EX 3L FEE EXEMPT

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT ---
RENEWAL ---
LICENSE ---

3. OTHER ---

SIGNED Brent Brown
DATE 2/4/96

RECEIVED BY LFDCB
2/6/96
Ltr 1 1 (96)
By B Brown
Date Completed 2/6/96