



DONALD DANFORTH  
PLANT SCIENCE CENTER

October 3, 2008  
Materials Licensing Branch  
U.S. Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

**Howard F. Beittenmiller**  
Radiation Safety Officer  
Donald Danforth Plant Science Center

975 North Warson Road  
St. Louis, Missouri 63132

Re: Request for Amend License Number 24-32339-01  
Docket Number 030-35805

Materials Licensing Branch

Enclosed, please find Form 313 and attached pages requesting amendment of the Materials License No. 24-32339-01 issued to the Donald Danforth Plant Science Center. The amendment request addresses the following areas:

1. Item 5: Radioactive Material:

Please see attached sheet: The Danforth Center wishes to add Iron 59.

2. Item 7: Individual(s) Responsible for Radiation Safety Program and Their Training Experience

Please see attached sheet: The Danforth Center wishes to add two (2) Principal Investigators as Authorized Users:

Dr. Sona Pandey as Authorized User for All Materials and Uses. Dr. Pandey's Curriculum Vitae with relevant information is attached.

Dr. Richard T. Sayre as Authorized User for All Materials and Uses. Dr. Sayre's Curriculum Vitae with relevant information is attached.

Thank you very much for your help in this matter.

Sincerely,

Howard F. Beittenmiller  
Radiation Safety Officer  
Donald Danforth Plant Science Center

RECEIVED OCT 07 2008

Estimated burden per response to comply with this mandatory collection request: 4.4 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. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**APPLICATION FOR MATERIALS LICENSE**

**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:**

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

**IF YOU ARE LOCATED IN:**

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

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
612 E LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TX 76011-4125

**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
- B. AMENDMENT TO LICENSE NUMBER 24-32339-01
- C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

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

**Donald Danforth Plant Science Center**  
**975 North Warson Road**  
**St. Louis, Missouri 63132**

**3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED**

**Donald Danforth Plant Science Center**  
**975 North Warson Road**  
**St. Louis, Missouri 63132**

**4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION**

**Howard F. Beittenmiller, Radiation Safety Officer**

TELEPHONE NUMBER

**(314) 587-1051**

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. LICENSE FEES (See 10 CFR 170 and Section 170.31)**

FEE CATEGORY **3M** AMOUNT ENCLOSED \$

**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**

**Roger N. Beachy, Ph.D., President**

**SIGNATURE**

*Roger N. Beachy*

**DATE**

**10/03/2008**

**FOR NRC USE ONLY**

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

Donald Danforth Plant Science Center  
License 24-32339-01  
Docket Number 030-35805

**Item 5: RADIOACTIVE MATERIAL:**  
Please Add:

Byproduct Material	Chemical &/or Physical Form	Maximum Amount that licensee may possess at any one time
Iron-59	Any	5 millicuries

**Item 7: INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE:**

Please Add:

Authorized User	Materials and Use
Sona Pandey, Ph.D.	All
Richard T. Sayre, Ph.D.	All

# CURRICULUM VITAE

**Sona Pandey**

**2008**

## PROFESSIONAL EXPERIENCE

### **Jawaharlal Nehru University**

Ph. D. candidate

New Delhi, India

1992-1998

- In house course/seminar on “Safe Use and Handling of Laboratory Isotopes”
- *In vitro* kinase assays using  $^{32}\text{P}$  and  $^{33}\text{P}$  substrates.
- *In vitro* calcium binding assays with  $^{45}\text{Ca}$ .

### **The Pennsylvania State University**

Post-doctoral Scientist

University Park, PA

1999-2008

- In house course and testing on “Safe Use and Handling of Laboratory Isotopes”.
- *In vitro* labeling of proteins using  $^{35}\text{S}$  and  $^{32}\text{P}$  precursors and substrates.
- *In vitro* radioligand binding using  $^3\text{H}$  substrates.
- *In vitro* enzymatic assays using  $^{32}\text{P}$  and  $^{35}\text{S}$ .
- Supervision (on rotating basis) of laboratory use of Radioactive Materials by post-doctoral fellows, students and technical staff.

### **Donald Danforth Plant Science Center**

Assistant Member and Principal Investigator

St. Louis, MO

2008-Present

- In house course and testing on “Safe Use and Handling of Laboratory Isotopes”.

**Richard T. Sayre, Ph. D.**  
**Director, Enterprise Rent-A-Car Institute for Renewable Fuels**  
**Member**  
**Donald Danforth Plant Science Center**  
**St. Louis, Missouri**

**Employment and Record of Radioisotope Use**

2008-                    Director, Enterprise Rent-A-Car Institute for Renewable Fuels  
Member  
Donald Danforth Plant Science Center, St. Louis, Missouri

1986-2008            Professor  
Department of Plant Cellular and Molecular Biology  
The Ohio State University  
Columbus, Ohio

Isotope Use:

<sup>125</sup>I: Protein labeling

<sup>32</sup>P: DNA labeling/hybridization, protein labeling

<sup>35</sup>S: Protein labeling

<sup>14</sup>C: Protein labeling

Training:

Institutional Radiation Safety Training Course

Supervision:

Responsible for graduate students, technicians, post-doctoral fellows,  
visiting scientists.

Member of Ohio State University Institutional Radiation Safety Committee

1982-1986            Post-doctoral Scientist  
Department of Cellular and Developmental Biology  
Harvard University  
Cambridge, Massachusetts

Isotopes Used:

<sup>125</sup>I: Protein labeling

<sup>32</sup>P: DNA labeling/hybridization, protein labeling

<sup>35</sup>S: Protein labeling

Training:

Institutional Radiation Safety Training

**Richard T. Sayre, Ph. D.**  
**Director, Enterprise Rent-A-Car Institute for Renewable Fuels**  
**Member**  
**Donald Danforth Plant Science Center**  
**St. Louis, Missouri**

1978-1982      Post-doctoral Scientist  
Department of Agronomy  
University of Kentucky  
Lexington, Kentucky

Isotopes Used:  
<sup>32</sup>P: Protein labeling  
<sup>35</sup>S: Protein labeling  
<sup>14</sup>C: Protein labeling

Training:  
Institutional Radiation Safety Training

1974-1978      Graduate Assistant  
Department of Biology  
University of Iowa  
Ames, Iowa

Isotopes Used:  
<sup>14</sup>C: Metabolic Labeling

Training:  
Three (3) credit graduate level Health Physics course on Medical Radioisotope Use



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St. Louis, MO 63132



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