

APPLICATION FOR MATERIAL 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.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIAL SECTION B
631 PARK AVENUE
KING OF PRUSSIA, PA 19406

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
MATERIAL RADIATION PROTECTION SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

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

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

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
MATERIAL RADIATION PROTECTION SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

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 JURISDICTION.

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

☐ A. NEW LICENSE

☐ B. AMENDMENT TO LICENSE NUMBER

☒ C. RENEWAL OF LICENSE NUMBER 12-11003-03

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

Dr. Tung H. Jeong, Chairperson
Department of Physics
Lake Forest College
Lake Forest, Illinois 60045

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

Johnson Science Center
Lake Forest College
Lake Forest, Illinois 60045

8601210591 851122
REG3 LIC30
12-11003-04 PDR

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Dr. Tung H. Jeong

TELEPHONE NUMBER

312-234-3100 ext.343

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 AND 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

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, 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.

SIGNATURE—CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

Tung H. Jeong

Tung H. Jeong

Chairman, Physics Dept.

10-17-85

14. VOLUNTARY ECONOMIC DATA

ANNUAL RECEIPTS

<\$250K

\$1M-3.5M

\$250K-500K

\$3.5M-7M

\$500K-750K

\$7M-10M

\$750K-1M

>\$10M

b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

c. NUMBER OF BEDS

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence)

☐ YES

☐ NO

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

APPROVED BY

AMOUNT RECEIVED

CHECK NUMBER

CONTROL NO. 79974

DATE

PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

1. **AUTHORITY:** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. **PRINCIPAL PURPOSE(S):** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30, 32, 33, 34, 35 and 40 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
3. **ROUTINE USES:** The information may be (a) provided to State health departments for their information and use; and (b) provided to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for an NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you.
4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION:** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed. A request that information be held from public inspection must be in accordance with the provisions of 10 CFR 2.790. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned need to inspect the document.
5. **SYSTEM MANAGER(S) AND ADDRESS:** U.S. Nuclear Regulatory Commission
Director, Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety and Safeguards
Washington, D.C. 20555

SUPPLEMENTAL INFORMATION

Lake Forest College

License #12-11003-03

5. Radioactive Material

a. Element and Mass Number	b. Chemical and/or physical form	c. Maximum amount which will be possessed at any one time
Cesium-137	sealed sources (N.S. Nuclear Corp. Model type 375)	two sources not to exceed 1 millicurie
Hydrogen-3	foil source (Varian Instrument Detector Cell Model No. 02-000966-02)	one source not to exceed 250 millicuries

6. Purpose(s) for which licensed material will be used:

Cesium sources are to be used in laboratory experiments in the course entitled Atomic and Nuclear Physics.

Hydrogen-3 source is to be used in gas chromatograph for sample analysis.

SUPPLEMENTARY INFORMATION

Lake Forest College

License #12-11003-03

7. Individual(s) responsible for radiation safety program and their training and experience:

Dr. Tung Hon Jeong
Professor and Chairperson
Department of Physics
Lake Forest College

Ph.D. (1962) Physics - University of Minnesota
Minneapolis, Minnesota

Nuclear Reactor Training at Battelle Memorial Institute, Columbus, Ohio
Summer of 1957

Research Assistant and Radiation Safety Officer, Linear Accelerator Laboratory,
University of Minnesota - June 1958 to September 1962

Post-Doctoral Work: Coordination and construction of a D.C. injector
for 500 kev polarized protons. Supervision of a
graduate student in his M.S. thesis experiment.
Do p-nuclear scattering experiments pertaining
to resolving the parameters in the "diffuse-
surface optical model" of the nucleus.

Teach physics courses in all levels, including atomic and nuclear physics
Lake Forest College since 1963.

8. Training for Individuals working in or frequenting restricted areas:

The radiation officer is the only one who has access to the restricted area.
For his training, please see item 7.

SUPPLEMENTAL INFORMATION

Lake Forest College

License #12-11003-03

9. Facilities and Equipment:

The Physics Department teaches a full program of physics at all undergraduate levels that includes a one-term course in Atomic and Nuclear Physics. The laboratory that serves this course has the general equipment normally used for teaching such as multichannel analyzers, scintillation counters, scalers, and more specifically a Nuclear-Chicago model 931 dosimeter, a Nucleus model 500 scaler/timer with a LND #712 GM tube window. The dosimeter is calibrated annually by Health Physics Associates in Northbrook, Illinois.

10. Radiation safety program:

Initial radiation survey of storage facility and experimental areas will be made by person listed in Item 7. All sources are kept in a special locked room and are only removed for use by the person listed in Item 6, who has sole possession of the keys.

The radiation sources for which this license applies will be removed from storage in Room 7 and returned to storage by Professor Tung H. Jeong. Removal and return of sources will be recorded in a ledger which will be maintained and kept with other health physics records in Professor Jeong's Room 101, Johnson Science Building A.

The sources are used on an annual basis for a period of two weeks once a year. Beginning in 1985 we are having the leak test performed two weeks prior to the use of the sources by using Kit #2545 with B26 instructions provided by Health Physics Associates limited at 3304 Commercial Avenue, Northbrook, Illinois 60062. The wipe tests are sent to them for analysis and their results are to be recorded in our log book.

11. Waste Management:

There will be no waste that must be eliminated in our work. Sources which eventually become too weak through natural decay to be useful in the laboratory will be sealed in their containers and returned to the manufacturer for disposal or sent to the appropriate office of the Illinois Department of Public Health. The Nuclear Regulatory Commission will be appropriately notified.

12. License fees:

No fees are required.

CONTROL NO. 79974