

U.S. NUCLEAR REGULATORY COMMISSION  
APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

1. (Check one) <input type="checkbox"/> (a) New license <input checked="" type="checkbox"/> (b) Amendment to License No. SUD-584 <input type="checkbox"/> (c) Renewal of License No. <input type="checkbox"/> (d) Previous License No.		2. NAME OF APPLICANT HOWARD UNIVERSITY	
3. PRINCIPAL BUSINESS ADDRESS 2300 6th Street, N.W. Washington, D.C. 20059		4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED Nuclear Engineering Program, Department of Mechanical Engineering Downing Hall of Engineering, Washington, D.C. 20059	
5. NAME OF PERSON TO BE CONTACTED CONCERNING THIS APPLICATION Dr. Emmanuel K. Glakpe		6. TELEPHONE NO. OF INDIVIDUAL NAMED IN ITEM 5 202/636-7741	
7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED  Reference: Original Application dated April 16, 1962			
8. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE			
(a) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (Including % U or Th.)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (kilograms)
NATURAL URANIUM	Natural Uranium	Metal Slugs	2500 kg
URANIUM DEPLETED IN THE U-235 ISOTOPE		Canned in Aluminum	
THORIUM (ISOTOPE)			
(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (kilograms) 2500 kg			
9. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.  Refer to original application for License SUD-584 dated April 16, 1962 and renewal application of August 10, 1982. <div style="text-align: right;">8711020533 861229 REG1 LIC40 SUD-0584 PDR</div>			
10. LIST THE NAMES AND ATTACH A RESUME OF THE TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE OF APPLICANT'S SUPERVISORY PERSONNEL AND THE PERSON RESPONSIBLE FOR THE RADIATION SAFETY PROGRAM (OR OF APPLICANT IF AN INDIVIDUAL).  Dr. Emmanuel K. Glakpe, Assistant Professor, Mechanical Engineering Department Mr. Gregory B. Talley, Radiation Safety Officer (Qualifications attached)			
11. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE: (a) RADIATION DETECTION AND RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument).  Refer to original application for License SUD-584 dated April 16, 1962 and renewal application of August 10, 1982			
(b) METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING EQUIPMENT (for film badges, specify method of calibrating and processing, or name supplier). <div style="text-align: right;">FEE EXEMPT 170,116(4)</div>			

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12/19/86  
By A. Kimberly  
Date Completed 12/17/86

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11(c). VENTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT.

No operations of this type are permitted

12. DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 9: INCLUDE: (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

Refer to original application of License SUD-584 and renewal application to August 10, 1982

(b) EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

Refer to original application of License SUD-584 and renewal application of August 10, 1982

(c) DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

Refer to original application of License SUD-584 and renewal application of August 10, 1982

13. WASTE PRODUCTS: If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here ☐ and explain on a supplemental sheet:

(a) Quantity and type of radioactive waste that will be generated.

NONE

(b) Detailed procedures for waste disposal.

14. IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

(a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

(b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

(c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (Specify instrument used, date of calibration and calibration technique used) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

(d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

### CERTIFICATE

(This item must be completed by applicant)

15. The applicant, and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

BY:

(Signature)

Dated September 2, 1986

Dr. Caspa L. Harris, Jr., Vice President

for Business and Fiscal Affairs - Treasurer  
Howard University

(Title of certifying official authorized to act on behalf of the applicant)

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.



Mr. Gregory B. Talley

Formal training in principles, measurements calculations and biological effects of radiation.

Food and Drug Administration D.C. Bureau of Radiological Health	1977
Nuclear Regulatory Commission Oak Ridge Associated Universities	1978
Las Vegas Test Site	1979
Howard University	1980
National Bureau of Standards	1983
National Institutes of Health.	1985

Lectures and laboratory courses were conducted by full-time faculty/staff at respective sites.

Other Training and Experience:

1977-80     Bureau of Radiological Health, D.C.  
             Department of Environmental Services

Assistant Health Physicist involved in the daily routine of this office, including the calibration of survey instruments, instruction of personnel in the aspects of radiation safety, inspection of facilities and equipment producing radiation in the District of Columbia.

1980 -     Radiation Safety Office, Howard  
Present   University

Plans and conducts radiation safety studies; reviews plans for research and test programs where radioactive materials are to be used to ascertain that proper precautions will be observed; advises professional personnel in the application of radioactivity calculations to shielding and decontamination procedures to be followed in handling radioactive materials. Tests newly developed techniques and/or implementation to solve the problems of accurately measuring, recording and analyzing data for various types of radioactivity to specific degrees of sensitivity including the use of biological subjects, unique radiation sources, etc., pursues radiation safety research when necessary.

Dr. Emmanuel K. Glakpe

Formal training in principles, measurements, calculations and biological effects of radiation.

University of Arizona

1976-1980

Lectures and laboratory courses were conducted by full-time faculty at the University.

Other Training and Experience:

1981 - School of Engineering, Howard University,  
Washington, D.C.

Faculty member in the Nuclear Engineering Program of the Mechanical Engineering Department. In this program, Dr. Glakpe teaches courses at the graduate level in Reactor Theory, Reactor Engineering, and Nuclear Properties and Dynamics.



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BETWEEN: William O. Miller, Chief  
License Fee Management Branch  
Office of Administration

John E. Glenn, Chief  
Nuclear Materials Section B  
Division of Engineering and  
Technical Programs

## LICENSE FEE TRANSMITTAL

Free Exempt

A. REGION1. APPLICATION ATTACHED

Applicant/Licensee:

Howard University

Application Dated:

11/5/86

Control No.:

106506

License No.:

SUD-584

2. FEE ATTACHED

Amount:

0

Check No.:

0

3. COMMENTS

Signed

Brenda Blatchek

Date

12/4/86

B. LICENSE FEE MANAGEMENT BRANCH

## 1. Fee Category and Amount:

EX-26

FEE EXEMPT

170.11(a)(4)

## 2. Correct Fee Paid. Application may be processed for:

Amendment

✓

Renewal

License

Signed

J. Kimberley

Date

12/12/86

HOWARD UNIVERSITY  
WASHINGTON, D.C. 20059

OFFICE OF THE VICE PRESIDENT  
FOR HEALTH AFFAIRS  
Radiation Safety Committee

November 14, 1986

Mr. John D. Kinneman, Chief  
Nuclear Materials Safety Section A  
Division of Radiation Safety and  
Safeguards  
U.S. Nuclear Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

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Dear Mr. Kinneman:

This letter is written to clarify a few errors found on License Number SNM-563 and SUD-584, received in this Office on October 31, 1986.

Condition No. 11 (SUD-584) states that, "Licensed material shall be used by or under the supervision of individuals designated by George A. Ferguson, Gregory Talley, or Marlene H. McKetty." We are assuming that you are issuing these licenses to the institution under the supervision of the Chairperson of the Radiation Safety Committee, and the Radiation Safety Officer. If this assumption is correct, Condition No. 11 should read as follows:

"Licensed materials shall be used by  
or under the supervision of individuals  
designated by Marlene H. McKetty, Ph.D and  
Gregory B. Talley."

Dr. George A. Ferguson has retired from Howard University and is no longer the Chairman of Howard University Radiation Safety Committee nor the responsible person for the use of special nuclear materials in the Nuclear Engineering Program of the School of Engineering.

Your attention to this matter will be appreciated.

Sincerely yours,  
*Marlene McKetty*  
Marlene H. McKetty, Ph.D., Chairperson  
Howard University Radiation Safety  
Committee

dmr

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