NRC FORM 374
(10-89)

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 20

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, 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 the Army Walter Reed Army Medical Center	In accordance with application dated March 18, 1991,
2. Washington, D. C. 20307-5001	3. License number 08-01738-03 is amended in its entirety to read as follows:
	4. Expiration date November 30, 1996
	5. Docket or Reference No 030-06895

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. Cobalt 60	A. Sealed sources (AECL Models C-166, C-167 or C-198)	A. 2 sources not to exceed 16,000 curies each
B. Cesium 137	B. Sealed sources (AECL Model C-161 Type 8)	B. 2 sources not to exceed 2,100 curies each
C. Cobalt 60	C. Sealed sources (AECL Model C-198)	C. 2 sources not to exceed 26,400 curies each
D. Cesium 137	D. Sealed sources (AECL Model C-161 Type 8)	D. 2 sources not to exceed 2,100 curies each
E. Cesium 137	E. Sealed sources	E.

9. Authorized use

A. To be used in AECL Gammacell 220 irradiator for medical research and development and radiation dosimetry.
B. To be used in AECL Gammacell 40 Irradiator for small animal irradiation, medical research, development and radiation dosimetry.
C. To be used in AECL Gammacell 220 Irradiator for medical research and development and radiation dosimetry.
D. To be used in AECL Gammacell 40 Irradiator for medical research and development and radiation dosimetry.
E. To be used in a irradiator to irradiate blood products.

CONDITIONS

10. Licensed material shall be used at WRAMC, Washington, D.C., and USAMRIID, Fort Detrick, Maryland.

Information in this record was deleted in accordance with the Freedom of Information Act, exemptions 2+6
FOIA 2006-0238
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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: 08-01738-03
Docket or Reference number: 030-06895
Amendment No. 20

(Continued) CONDITIONS

11. A. Licensed material shall be used by individuals who have satisfactorily completed the training program outlined in the application dated March 18, 1991 and have been designated by the individual approved by the Radiation Control Committee. Records of training shall be maintained by the licensee.

    B. The Radiation Safety Officer for this license is Peter H. Myers.

12. Sealed sources containing licensed material shall not be opened.

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 are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed 3 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 3 months.

    C. In the absence of a certificate from a transferor indicating that a 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 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.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number 08-01738-03
Docket or Reference number 030-06895
Amendment No. 20

(13. continued) CONDITIONS

F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. 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 shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 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 involved, the test results, and corrective action taken.

G. The licensee is authorized to collect leak test samples for analysis by individuals approved by the Radiation Control Committee. 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.

14. The licensee shall not perform repairs or alterations of the irradiator involving removal of shielding or access to the licensed material. Removal, replacement, and disposal of sealed sources in the irradiator shall be performed by a person specifically licensed by the Commission or an Agreement State to perform such services.

15. 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 March 18, 1991

For the U.S. Nuclear Regulatory Commission

Date DEC 1 0 1991

By Original Signed By: Paul D. Swetland

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

DEC 1 0 1991

License No. 08-01738-03
Docket No. 030-06895
Control No. 114338

Department of the Army
ATTN: Llewellyn E. Piper, Lt. Col.
Walter Reed Army Medical Center
ATTN: HSHL-HP
Washington, D.C. 20307-5001

Dear Sir:

Please find enclosed the renewal of your NRC Material License.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the Region I Material Licensing Section, (215) 337-5093, so that we can provide appropriate corrections and answers.

Please be advised that you must conduct your program involving licensed radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, please note the items in the enclosed, "Requirements for Materials Licensees."

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, the NRC expects licensees to pay meticulous attention to detail and to achieve the high standard of compliance which the NRC expects of its licensees.

You will be periodically inspected by NRC. A fee may be charged for inspections in accordance with 10 CFR Part 170. Failure to conduct your program safely and in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in prompt and vigorous enforcement action against you. This could include issuance of a notice of violation, or in case of serious violations, an imposition of a civil penalty or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C.

OFFICIAL RECORD COPY ML 08-01738-03/LTR - 0001.0.0
11/08/91

ML 10

We wish you success in operating a safe and effective licensed program.

Sincerely,

Original Signed By:
Paul D. Swetland

Paul Swetland
Industrial Applications Section C
Division of Radiation Safety
and Safeguards

Enclosure: Requirements for Materials Licensees

DRSS:RI
McGrath/rmc
11/13/91

DRSS:RI
Swetland
11/30/91

OFFICIAL RECORD COPY ML 08-01738-03/LTR - 0002.0.0
11/08/91

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

APR 15 1991

Docket No. 030-06895

License No. 08-01738-03

Control No. 114338

Department of the Army
Walter Reed Army Medical Center
HSHL-HP
ATTN: Llewellyn E. Piper
Lieutenant Colonel
Washington, D.C. 20307-5001

Gentlemen:

SUBJECT: LICENSE RENEWAL APPLICATION

This is to acknowledge receipt of your application for renewal of material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Any correspondence regarding the renewal application should reference the control number specified above.

Sincerely,

Original Signed By:
Sheryl Villar

Sheryl Villar, Chief
Licensing Assistant Section
Division of Radiation Safety and
Safeguards

MLL 4/15/91 (52) 4/15/91

OFFICIAL RECORD COPY ML 10

030-06895

DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
5109 LEESBURG PIKE
FALLS CHURCH, VA 22041-3258

REPLY TO
ATTENTION OF

March 18, 1991

Preventive and Military
Medicine Consultants Division

US Nuclear Regulatory Commission
Region I
475 Allendale
King of Prussia, Pennsylvania 19406

Dear Sir:

Enclosed are two copies of a request to renew in its entirety Byproduct Material License Number 08-01738-03, Walter Reed Army Medical Center, Washington, DC. The application supersedes all materials referenced under Condition 16 of the current license.

Recommend approval.

Sincerely,

Charles E. Day, III
Colonel, U.S. Army
Radiological Hygiene Consultant

Enclosure

114338

OFFICIAL RECORD COPY

ML 10

MAR 21 1991

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, D.C. 20307-5001

REPLY TO
ATTENTION OF:

HSHL-H-HP (385-11m) March 7, 1991

MEMORANDUM THRU HQDA (SGPS-PSP-E), 5109 Leesburg Pike, Falls Church, VA 22041-3258

FOR US Nuclear Regulatory Commission, Region I, Nuclear Material Safety Section B, 475 Allendale Road, King of Prussia, PA 19406

SUBJECT: Renewal of US Nuclear Regulatory Commission License No. 08-01738-03

Enclosed is the renewal application for Walter Reed Army Medical Center for NRC Materials License No. 08-01738-03. This application for dry cell irradiators includes two irradiators at USAMRIID, Ft. Detrick which have been included on the Walter Reed license in the past. USAMRIID has recently received an NRC broad scope license of their own, and are in the process of applying for an irradiator license, at which time these irradiators will be transferred to their license and that location deleted from our license.

FOR THE COMMANDER:

6 Encls

LLEWELLYN E. PIPER
LTC, MS
Executive Officer

CF:
Commander, US Army Health Services Command, ATTN: HSCL-P, Fort Sam Houston, TX 78234-6000

NRC FORM 313
(9-88)
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires: 6-30-90

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.

APPLICATIONS FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR 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 HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIALS SAFETY SECTION B
475 ALLENDALE ROAD
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
NUCEAR MATERIALS SAFETY 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
NUCLEAR MATERIALS SAFETY 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 _____
- [XX] C. RENEWAL OF LICENSE NUMBER 08-01738-03

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

Department of the Army
Walter Reed Army Medical Center
ATTN: HSHL-H-HP
Washington, DC 20307-5001

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

Walter Reed Army Medical Center and Walter Reed Army Institute of Research, Washington, DC 20307-5001; US Army Medical Research Institute for Infectious Diseases, Ft. Detrick, Frederick, MD 21701

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION — TELEPHONE NUMBER

PETER H. MYERS, LTC, MS, Chief, Health Physics Office, WRAMC — (301) 427-5104

SUBMIT ITEMS 5 THROUGH 11 ON 8½ 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 7B — AMOUNT ENCLOSED $ Exception(10CFR) 170.11(a)(5)

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
	RICHARD D. CAMERON, MG, MC	COMMANDING GENERAL	

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS

AMOUNT RECEIVED	CHECK NUMBER

FEE EXEMPT

APPROVED BY — DATE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 7.5 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE OFFICE OF INFORMATION AND REGULATORY AFFAIRS, OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

Continuation of NRC Form 313 (Items 5 - 11)

Item 5. Radioactive Material

Irradiator #1 Cobalt 60, sealed sources in AECL Model C-166, C-167 or C-198. Maximum activity in irradiator 26,400 Ci, maximum possessed at one time 52,800 Ci.

Irradiator #2 Cesium 137, 2 sealed sources of maximum 2,100 Ci in AECL Model C-161, Type 8. Maximum activity in irradiator 4,200 Ci, maximum possessed at one time 8,400 Ci.

Irradiator #3 Cobalt 60, sealed sources in AECL Model C-198. Maximum activity in irradiator 26,400 Ci, maximum possessed at one time 52,800 Ci.

Irradiator #4 Cesium 137, 2 sealed sources of maximum 2,100 Ci, in AECL Model C-161, Type 8. Maximum activity in irradiator 4,200 Ci, maximum possessed at one time 8,400 Ci.

Irradiator #5 Cesium 137, 4 sealed sources of maximum [redacted] in [redacted] Maximum activity in irradiator [redacted] maximum possessed at one time [redacted]

Item 6. Purposes for which licensed material will be used.

Irradiator #1 To be used in AECL Gammacell 220 irradiator located at WRAIR, Washington, DC, for medical research and development, and radiation dosimetry.

Irradiator #2 To be used in AECL Gammacell 40 irradiator located at WRAIR, Washington, DC, for small animal irradiation, medical research and development, and radiation dosimetry.

Irradiator #3 To be used in AECL Gammacell 220 irradiator located at USAMRIID, Ft. Detrick, Frederick, MD, for medical research and development, radiation dosimetry, and inactivation of viruses.

Irradiator #4 To be used in AECL Gammacell 40 irradiator located at USAMRIID, Ft. Detrick, Frederick, MD, for medical research and development, radiation dosimetry, and inactivation of viruses.

Irradiator #5 To be used in [redacted] irradiator located at WRAMC, Washington, DC, for irradiation

Ex 2

of blood products for transfusion, to kill lymphocytes in blood products to prevent Graft versus Host disease.

Item #7 Individual responsible for radiation protection program and their training and experience.

The Radiation Safety Officer for this license and the Chief of the Health Physics Office at Walter Reed Army Medical Center (WRAMC) is LTC Peter H. Myers. LTC Myers previous training and experience is listed in enclosure 1. LTC Myers was present when the initial operators training was presented for the [ ] irradiator by the vendor's representative. He will also be attending an in-house course given by the principle user of the AECL irradiators at Walter Reed Army Institute of Research (WRAIR) to all new users.

Item #8 Training for individuals working in or frequenting restricted areas.

Chapter 2 of WRAMC Regulation 40-10 (see enclosure 2) covers the Health Physics training provided at Walter Reed. In the case of the irradiators the initial and annual briefings provided by the principle users will include a review of the SOP's and emergency procedures applicable to their irradiator as well as a hands-on exercise of the irradiator operation. Enclosure 3 is a copy of a sample class schedule for a typical Introductory Principles of Radiation Protection (IPRP) class.

Item #9 All five irradiators are located in rooms which are controlled access areas which remain locked when not occupied by approved personnel. In addition all the irradiators are themselves key locked with the keys being controlled by the principle users.

The [ ] irradiator is located on the [ ] floor of building 2 (the main hospital) Walter Reed AMC in room [ ]. The room is bordered on one side by a corridor with no direct access to the room, on two sides by controlled access storage rooms [ ], and on the fourth side by an infrequently used controlled access hallway. The storage rooms will have intermittent occupancy by no more than two (2) employees per room. The overhead area is a controlled access interstitial space for piping and ventilation systems and would occupied only in case of repairs. A diagram of room [ ] and surrounding areas is attached (enclosure 4). Room [ ] is equipped with an automatically operated fire detection and control system (sprinkler) that is adequate to ensure the integrity of the irradiator and source in a fire.

The AECL irradiators are located in ground floor rooms with concrete floors, lead lined concrete or cinder block walls, and

Ex 2

concrete overheads. These locations are in fire-resistant buildings with little combustible material which ensures a very low level of radiation risk attributable to fires. In addition both Ft. Detrick and WRAMC have their own on post fire departments who have been instructed on the locations and possible hazards of the irradiators. Irradiators A & B Item #5 are located in building 40 (WRAIR), room B101 (see enclosure 5) and irradiators C & D Item #5 are located in building 1425, room AR109, USAMRIID, Ft. Detrick (see enclosure 6).

Item #10.1 All personnel using the irradiators will employee some form of personnel monitoring. Most routine users have permanently assigned TLD's from the Army Dosimetry Center, which are changed at least quarterly. All other users will employee direct-reading pocket dosimeters with a 0-200mr/hr range. These dosimeters will be logged out on a daily basis with the initial and final readings recorded in a record maintained by the principle users. Any off-scale reading will be immediately reported to the Health Physics Office and an evaluation will be conducted to determine the individuals dose.

Item #10.2 Survey meters that can measure up to several hundred milliroentgens per hour are available for monitoring. These instruments will (1) be calibrated so that the readings are within ± 20% of the actual values over the range of the instrument and (2) be calibrated at least annually and after servicing (other than a simple battery exchange). Survey instruments will be calibrated by an annually contracted company, whose procedures and sources are approved by the NRC or an Agreement State. Calibration records will be kept by the HPO for a minimum of two years. Our contractor for the past couple of years has been Health Physics Services, Incorporated, 1350 Piccard Drive, Rockville, Maryland 20850, NRC license # 19-19791-01. We also have recently sent some instruments for repair and calibration to the Department of the Army, U.S. Army Test, Measurement and Diagnostic Equipment Support Center Aberdeen, Aberdeen Proving Ground, Maryland 21005-5001, Commodities license # 29-01022-14.

Item #10.3 Walter Reed Army Medical Center holds an NRC specific license of broad scope issued pursuant to 10 CFR Part 33. LTC Myers is the RSO on that license and the Chief of the Health Physics Office. The leak tests will be performed as required at 6 month intervals by the HPO and counted on an instrument capable of quantitatively measuring 0.005 μCi of activity.

Item #10.4 Written operating and emergency procedures are provided to each person who uses the irradiator. Copies are also maintained in the irradiator rooms with the emergency procedures and emergency phone numbers conspicuously posted. These procedures include; step-by-step procedures for operation of the irradiator, instructions on use of personnel dosimetry and recording doses,

criteria to ensure that only authorized persons will use the irradiator, inspections or pre-run test procedures to ensure the irradiator and safety devices (interlocks etc.) are functioning properly, prohibited modifications (for example, over-riding an interlock or removing shielding), and emergency procedures and phone numbers in case of abnormal radiation levels around the irradiator. The requirement to limit access to any area with a radiation level greater than 2 mr/hr will be included.

Item #10.5 Installation, replacement, reloading, or any repairs or alterations which might involve removal of shielding or access to the licensed material will be performed by the supplier or other persons who are specifically licensed by the NRC or an Agreement State for such work.

Item #11 The disposal of the licensed material in the irradiators will be accomplished by transferring the irradiators to the supplier or to a licensee specifically authorized to accept it.

TRAINING AND EXPERIENCE OF AUTHORIZED RADIOISOTOPE USERS

1. NAME OF AUTHORIZED USER (Last, First, MI)	2. STATE OR TERRITORY IN WHICH LICENSED: (MD, DDS, DVM, etc.)
MYERS, Peter H.	

RANK/GRADE	ORGANIZATION	ORGANIZATIONAL DIVISION	BLDG./ROOM NO.	WRAMC AUTHORIZATION NO.
LTC	WRAMC	Health Physics Office	Bldg. 188, FGS, WRAMC	221

3. CERTIFICATION

SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C
N/A	N/A	N/A

4. FORMAL EDUCATION

HIGHEST ACADEMIC DEGREE ATTAINED

	Higher Educational Institutions Attended	Type of Program Pursued and Dates of Attendance	Degree, Diploma or Certificate Received and Date
a.	Texas A&M University	MS, Biophysics (Rad Hlth)	MS, Biophysics (Rad Hlth)
b.	University of Kansas	BA, Biology (Env Hlth)	BA, Biology (Env Hlth)
c.			
d.			

5. TRAINING RECEIVED IN BASIS RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING (Include course title if known) B	TYPE AND LENGTH OF TRAINING: LECTURE/ LABORATORY COURSES (Hours) C	TYPE AND LENGTH OF TRAINING: SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Applied Hlth Phys Crse Oak Ridge Nat'l Lab, TN June 1978	60	20
b. RADIATION PROTECTION	Applied Hlth Phys Crse Oak Ridge Nat'l Lab, TN June 1978	60	20
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	Applied Hlth Phys Crse ORAU, TN June 1978	15	5
d. RADIATION BIOLOGY	Applied Hlth Phys Crse ORAU, TN June 1978	15	5
e. RADIOPHARMACEUTICAL CHEMISTRY	Ex 2		

CURRICULUM VITAE

for

PETER HALL MYERS, Lieutenant Colonel

DATE AND PLACE OF BIRTH:

YEARS OF ACTIVE MILITARY SERVICE: Over 22 years

PRESENT ASSIGNMENT: (3 Aug 89 to present)
Chief, Health Physics Office; Alternate RPO,
Walter Reed Army Medical Center,
Washington, DC 20307-5001

MILITARY EDUCATION (pertinent to radiation protection):

1. Senior Officers' Nuclear Accident Course,
3 1/2 days (8 hours related to 10CFR35.900), 24-27 Apr 78
InterService Nuclear Weapons School
Kirtland Air Force Base, New Mexico

(included presentations on basic radiation protection principals used in managing nuclear weapons accidents, e.g., characteristics of radiological materials to be encountered, contamination monitoring and identification, hot line operations)

2. Nuclear Medical Science Officers Workshop
1 week (11 hours related to 10CFR35.900), 19-23 Oct 81
U.S. Army Environmental Hygiene Agency
Aberdeen Proving Ground, Maryland

(included presentations on management of radiation protection programs and topical radiation protection issues)

3. Nuclear Weapons Orientation Advanced Course
1 week (2 hours related to 10CFR35.900), 1-5 Mar 82
InterService Nuclear Weapons School
Kirtland Air Force Base, New Mexico

4. Medical Effects of Nuclear Weapons Course,
1 week (17 hours related to 10CFR35.900), 28 Feb-4 Mar 83
Armed Forces Radiobiology Research Institute
Bethesda, Maryland

(included presentations on predicted human response to both high and low doses of ionizing radiation; receipt and processing (by medical treatment facilities) of patients contaminated by nuclear material; and basic and advanced medical techniques for the management and treatment of patients having received ionizing radiation exposures)

Ex 2

Curriculum Vitae, LTC Peter H. Myers
(continued)

MILITARY EDUCATION (continued):

5. U.S. Army Medical Department Radiation Health Sciences Course
1 week (16 hours related to 10CFR35.900), 24-28 Oct 88
U.S. Army Environmental Hygiene Agency
Aberdeen Proving Ground, Maryland

(included presentations on management of radiation protection programs and topical radiation protection issues)

CIVILIAN EDUCATION (relative to radiation protection):

1. Applied Health Physics Course
5 weeks (200 hours related to 10CFR35.900), 30 May-1 Jul 77
Oak Ridge Associated Universities
Oak Ridge, Tennessee

(see attachment 7 for course curriculum)

2. Graduate Study leading to Master of Science Degree in Biophysics (emphasis in Health Physics)
2 years, Jul 79-Jun 81 (52 Semester Hours)
Texas A&M University
College Station, Texas

(see attachment 8 for details of courses taken)

(included one-year of practical experience (4-8 hours a week) working with Texas A&M's Dosimetry Program, Cyclotron and Research Reactor's Radiation Protection Programs, Radioactive Waste Management Program, Environmental (air, water and soil) Monitoring Program)

3. ABHP Certification Examination Preparation Course
21 Weeks (57 hours related to 10CFR35.900), 11 Jan-31 May 90
Baltimore-Washington Chapter, Health Physics Society
(Classes at NRC Headquarters, Rockville, MD)

(see attachment 9 for details of course curriculum)

HEALTH PHYSICS EXPERIENCE:

1. Instructor, Radiation Protection
July 1977 - April 1978
Radiological/Chemical Protection Branch
Academy of Health Sciences
Fort Sam Houston, Texas

(included preparing and presenting classes on Battlefield

Curriculum Vitae, LTC Peter H. Myers
(continued)

HEALTH PHYSICS EXPERIENCE (continued);

Nuclear Radiation Protection to Army Medical Department Officers; classes included characteristics of ionizing radiation (alpha, beta and gamma), monitoring for ionizing radiation contamination, decontamination procedures and principles of radiation protection (time, distance and shielding)

2. Assistant Radiation Protection Officer
2 May 1978 - 1 May 1979
Joint Task Group
Enewetak Atoll Cleanup Project
Enewetak Atoll,
Trust Territories of the Pacific Islands

(included assisting the RPO in the preparation and execution of all radiation protection policies in support of the three-year multi-Agency project to remove debris and radiologically-contaminated soil from the islands of Enewetak Atoll; part of the Atomic weapons Pacific Test Site, 1948 - 1958. Radionuclides encountered included those typical to nuclear weapons detonations: Plutonium-239, Americium-241, Cesium-137, Strontium-90, Cobalt-60. Significant radiation protection programs involved: personnel dosimetry, personnel and equipment contamination control, hot-line operations, and air sampling.)

3. Course Director, Medical Effects of Nuclear Weapons Course
6 March 1984 - 6 January 1986
Armed Forces Radiobiology Research Institute
National Naval Medical Center
Bethesda, MD

(included presentations on predicted human response to both high and low doses of ionizing radiation; receipt and processing (by medical treatment facilities) of patients contaminated by nuclear material; and basic and advanced medical techniques for the management and treatment of patients having received ionizing radiation exposures)

4. Nuclear, Biological, Chemical Staff Officer
January 1986 - July 1987
Office of The Surgeon General
Headquarters, Department of the Army
Washington, DC

(included sponsoring and staying abreast of latest research on medical treatment of ionizing radiation exposure patients; of specific interest was the development of radioprotectants and medicaments to maintain effective performance during times

HEALTH PHYSICS EXPERIENCE (continued):

when early radiation sickness ordinarily would interfere with performance effectiveness -- also included development of procedures to be used by battlefield medical units to maximize effectiveness within environments affected by nuclear weapons detonations, e.g., unit preparation in anticipation of nuclear weapons detonations (shielding from prompt ionizing radiation exposures) and unit procedures subsequent to nuclear weapons detonations (shielding from residual radiation exposures and prevention of residual radiation contamination.)

5. Commander
14 July 1987 - 13 July 1989
US Army Pacific Environmental Health Engineering Agency
Camp Zama, Japan

(included directly supervising Health Physics Division whose responsibility was to perform surveys of Tripler Army Medical Center's (TAMC's) Radiation Protection Program which, in part, supported their Nuclear Medicine Clinic -- direct supervision involved reviewing and approving all survey reports written in evaluation of TAMC's Radiation Protection Program.)

UNITED STATES AIR FORCE

Certifies that

CPT PETER H. MYERS,

has successfully completed the

SENIOR OFFICERS NUCLEAR ACCIDENT COURSE (G30ZP0515-1)
KIRTLAND AIR FORCE BASE, NEW MEXICO 87117
PDS CODE: NPR DURATION: 3½ DAYS

and is herewith awarded this

CERTIFICATE of TRAINING

Butler T. Franklin

BUTLER T. FRANKLIN, Lt Col, USAF
Commandant
Interservice Nuclear Weapons School

24 - 27 Apr 1978
Date

X3

DEPARTMENT OF THE ARMY

CERTIFICATE OF TRAINING

This is to certify that

MAJ PETER H. MYERS

has successfully completed

NUCLEAR MEDICAL SCIENCE OFFICERS WORKSHOP
19 - 23 OCT 81

Given at US Army Environmental Hygiene Agency

Charles E. Day III

CHARLES E. DAY, III
MAJ, MSC
Course Director

DA FORM 87, 1 OCT 76 EDITION OF 1 JUL 74 WILL BE USED.

NUCLEAR MEDICAL SCIENCE OFFICERS' CONFERENCE

18 October 1981

Sunday

0001-2400	Sign-in & Register	SDO & SDNCO

19 October 1981

Monday

TIME	TITLE	INSTRUCTOR
0815-0830	In-processing	Mrs. Donley
0830-0845	Welcome	COL Whitlaw
0845-0900	Course Introduction	MAJ Day
0910-0950	Orientation/Task Assignments	MAJ Day/CPT Vreuls
1000-1100	Nuclear Medical Science Officers in the Army	COL McDermott
1110-1200	MSC Affairs	BG Jordan
	LUNCH	
1300-1330	Litigation of Speaking Out(JAG)	MAJ Reilly
1335-1425	Radiological Technician(91P)	1LT Watts
1435-1525	Health Physics Technician(91M)	CPT Harrison
1535-1600	Naval Health Physics	CDR Beuchler
1605-1630	Air Force Health Physics	LTC Kopp

20 October 1981

Tuesday

0800-1630	201/Branch File Review with Personnel Interview	COL McDermott
0800-0850	Rad Contaminated Patients Physician's Perspectives	LTC Spebar
0850-0900	Class Photo	
0900-0950	WRAMC-RAMI	CPT Tupin
1000-1050	NUWAX-8	MAJ Mathewson
1100-1150	Nuc Med Sci Officers in the Field	CPT(P) Connock
	LUNCH	
1300-1330	AFFRI Orientation	COL Adcock/MAJ Hagan
1335-1425	Non-Ionizing Rad: What's New	LMD (TBA)
1435-1525	INRAD	MAJ Potter
1535-1625	Internal Dosimetry	MAJ(P) Williams

21 October 1981

Wednesday

TIME	TITLE	INSTRUCTOR
0800-0850	Rad Waste Management at a MEDCEN	CPT Cherry
0900-0950	Rad Waste Management in the Army	Byron Morris
1000-1050	Air Gap Technique	MAJ Day
1100-1150	HSC in Perspective	LTC Field
	LUNCH	
1300-1330	Army Nuclear Chemical Agency Orientation	MAJ Myers
1335-1425	Dosimetry: Estimated Fetal Exposure Utilizing Radiographs	MAJ Wright
1435-1625	Instrument and Monitoring Methods for Health Physicists	CPT Cherry

22 October 1981

Thursday

0800-0850	American Society of Radiological Technologist	Ms Dorothy Foutf
0900-0950	Society of Nuclear Medicine	Dr. Hendee
1000-1050	Nuclear Regulatory Commission	Mrs. P. Vacca
1100-1150	Bureau of Radiological Health	John Villforth
	LUNCH	
1300-1330	DARCOM Orientation	MAJ Gaston
1335-1425	American Association of Physicists in Medicine	Dr. Wright
1435-1525	Health Physics Society	Mr. Holeman
1535-1625	National Committee on Radiation Protection	Dr. Taylor
1800-1900	Banquet	
1900-2000	Eat	
2000-	Dr. Hendee	

23 October 1981

Friday

0800-1030	Discussion of Tasks	MAJ Day
1040-1120	Open Discussion	All Students
1130-1145	Critique	All Students
1150-1215	Summary & Closing Remarks	MAJ Day
	LUNCH	
1315-1630	Out-Processing	SM
	Sign-Out	SDO & SDNCO

THE UNITED STATES AIR FORCE

Congratulations

[redacted]

has successfully completed the

NUCLEAR WEAPONS ORIENTATION ADVANCED COURSE (G302P4054)
KIRTLAND AIR FORCE BASE, NEW MEXICO, 87117
PDS CODE: EHX DURATION: 4 1/2 DAYS

and is herewith awarded this

CERTIFICATE of TRAINING

Francis M. Gullick

FRANCIS M. GULLICK, Lt Col, USAF
Commander
Interservice Nuclear Weapons School

1-5 Mar 82
Date

Armed Forces Radiobiology Research Institute

Defense Nuclear Agency

Certificate of Completion

This is to certify that

MAJ Peter H. Myers, MSC, USA

has completed 29 hours of

MEDICAL EFFECTS OF NUCLEAR WEAPONS

a Course for Military Physicians

given at the Armed Forces Radiobiology Research Institute,

Bethesda, Maryland.

4 March 1983

DATE

BOBBY R. ADCOCK
Colonel, MSC, USA
Director, AFRRI

As an organization accredited for continuing medical education, the Naval Health Sciences Education and Training Command designates this continuing medical activity as meeting the criteria for 29 credit hours in Category I of the Physician's Recognition Award of the American Medical Association.

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Radiation Exposure: Values and Risks . . . . . Y

DEPARTMENT OF THE ARMY

CERTIFICATE OF TRAINING

This is to certify that

LTC PETER H. MYERS

has successfully completed

THE ARMY MEDICAL DEPARTMENT
RADIATION HEALTH SCIENCES COURSE
24-28 Oct 88

Given by: U.S. Army Environmental Hygiene Agency

Arthur B. Webb
LTC, MS
DRES

DA FORM 81, 1 OCT 78

OAK RIDGE ASSOCIATED UNIVERSITIES

This is to certify that

PETER H. MYERS

has completed

A FIVE-WEEK APPLIED HEALTH PHYSICS COURSE

conducted by Special Training Division of
Oak Ridge Associated Universities
Operating under contract with the
Energy Research and Development Administration

1ST day of JULY, 1977

at Oak Ridge, Tennessee

Chairman, Special Training Division

APPLIED HEALTH PHYSICS

May 30 - June 3, 1977

FIRST WEEK

DATE	TIME	TOPIC	LECTURER	ROOM
Monday, May 30	8:00 AM	Welcome, Registration, Orientation	Beck/Kent	E-4
	9:00 AM	ATOMIC AND NUCLEAR STRUCTURE	PAULSON	E-4
	11:00 AM	Math Review	Beck	E-4
	1:00 PM	INTRODUCTION TO RADIOACTIVITY	PAULSON	E-4
	2:30	COMPUTER ORIENTATION	GLEASON	W-14
Tuesday, May 31	8:00 AM	MODES AND RATES OF DECAY	PAULSON	E-4
	9:30 AM	Lab: Computational Techniques	Beck	E-4
	10:30 AM	COUNTING STATISTICS	GLEASON	E-4
	1:00 PM	PARTICLE INTERACTIONS	PAULSON	E-4
	2:30 PM	GAS DETECTORS: G-M COUNTERS	BECK	E-4
	3:30 PM	Lab: HP-1 Laboratory Techniques	Kent/Auxier	W-19
Wednesday, June 1	8:00 AM	GAMMA INTERACTIONS	PAULSON	E-4
	9:30 AM	Lab: HP-2 G-M Counting	Auxier/Beck	W-19
	1:00 PM	GAS DETECTORS: PROPORTIONAL COUNTERS	KENT	E-4
	2:30 PM	Lab: HP-3 Beta Characteristics	Auxier/Paulson	W-19
Thursday, June 2	8:00 AM	QUANTITIES AND UNITS I	BECK	E-4
	9:30 AM	Review & Problem Session	Kent	E-4
	10:30 AM	GAS DETECTORS: IONIZATION CHAMBERS	KENT	E-4
	1:00 PM	SCINTILLATION SPECTROMETRY I	GLEASON	E-4
	2:30 PM	Lab: HP-8 Proportional Counting	Beck/Kent	W-1
Friday, June 3	8:00 AM	QUANTITIES AND UNITS II	BECK	E-4
	9:30 AM	Review and Quiz	Beck/Kent	E-4
	10:30 AM	SCINTILLATION SPECTROMETRY II	GLEASON	E-4
	1:00 PM	BIOLOGY REVIEW	GIST	E-4
	2:30 PM	Lab: HP-5 Gamma Ray Spectrometry	Gleason	W-1

APPLIED HEALTH PHYSICS

June 6 - 10, 1977

SECOND WEEK

DATE	TIME	TOPIC	LECTURER	ROOM
Monday, June 6	8:00 AM	SCINTILLATION SPECTROMETRY III	GLEASON	E-4
	9:30 AM	Lab: HP-6 Multichannel Analyzer	Paulson/Gleason	W-1
	1:00 PM	RADIATION BIOLOGY I	CLOUTIER	E-4
	2:30 PM	Lab: HP-45 Bio. Effects of Radiation	Gist/Auxier	E-9
Tuesday, June 7	8:00 AM	LIQUID SCINTILLATION COUNTERS	GIST	E-4
	9:30 AM	Lab: HP-20 Liquid Scintillation Counters	Gist/Kent	W-1
	1:00 PM	RADIATION BIOLOGY II	CLOUTIER	E-4
	2:30 PM	RADIATION PROTECTION GUIDES I	BECK	E-4
Wednesday, June 8	8:00 AM	X-RAY PRODUCTION AND CHARACTERISTICS	CLOUTIER	E-4
	9:30 AM	Review and Problem Session	Kent	E-4
	10:30 AM	SHIELDING I	BECK	E-4
	1:00 PM	SHIELDING II	KENT	E-4
	2:30 PM	Lab: HP-18 Shielding	Kent/Beck	W-1
Thursday, June 9	8:00 AM	RADIATION PROTECTION GUIDES II	BECK	E-4
	9:30 AM	ACUTE EFFECTS OF RADIATION	ANDREWS	E-4
	10:45 AM	Shielding Evaluation Problem	Kent	E-4
	1:00 PM	IONIZATION SURVEY INSTRUMENTS	KENT	E-4
	2:30 PM	Lab: HP-13 Ionization Survey Meter Characteristics	Beck/Kent	E-4
Friday, June 10	8:00 AM	GEIGER-MUELLER SURVEY INSTRUMENTS	BECK	E-4
	9:00 AM	Lab: HP-21 Condenser R Meter	Beck/Kent	MED
	11:00 AM	Review and Quiz	Beck/Kent	E-4
	1:00 PM	SOURCES OF HEALTH PHYSICS INFORMATION	BECK	E-4
	2:00 PM	Lab: HP-14 G-M Survey Instruments	Beck/Kent	E-4

APPLIED HEALTH PHYSICS

June 13 - 17, 1977

THIRD WEEK

DATE	TIME	TOPIC	LECTURER	ROOM
Monday, June 13	8:00 AM	SPECIAL SURVEY INSTRUMENTS	KENT	E-4
	9:00 AM	Lab: (A) γ Scintillation Instruments	Beck	E-4
		(B) α Instruments	Kent	E-4
	11:00 AM	NEUTRON PRODUCTION	PAULSON	E-4
	1:00 PM	NEUTRON INTERACTIONS AND DETECTION	PAULSON	E-4
	2:30 PM	Lab: (B) γ Scintillation Instruments	Beck	E-4
		(A) α Instruments	Kent	E-4
Tuesday, June 14	8:00 AM	STANDARDIZATION	GLEASON	E-4
	9:30 AM	Lab: HP-35 Standardization	Gleason	W-14
	1:00 PM	NEUTRON SURVEY INSTRUMENTS		E-4
	2:30 PM	Lab: (A) HP-15 BF_3 Detectors	Beck	W-15
		(B) HP-16 Neutron Survey Instruments	Kent	E.B.
Wednesday, June 15	8:00 AM	FACILITY DESIGN		E-4
	9:30 AM	Review and Problem Session	Kent	E-4
	11:00 AM	NEUTRON SHIELDING		E-4
	1:00 PM	FILM DOSIMETRY	KENT	E-4
	2:30 PM	Lab: (B) HP-15 BF_3 Detectors	Beck	W-1
		(A) HP-16 Neutron Survey Instruments	Kent	E.B
Thursday, June 16	8:00 AM	THERMOLUMINESCENT DOSIMETRY	BECK	E-4
	9:30 AM	Lab: (A) HP-25 Thermoluminescent Dosimetry	Beck	W-1
		(B) HP-22 Film Dosimetry	Kent	W-1
	1:00 PM	INTERNAL DOSIMETRY I	CLOUTIER	E-4
	2:30 PM	Lab: (B) HP-25 Thermoluminescent Dosimetry	Beck	W-1
		(A) HP-22 Film Dosimetry	Kent	W-1
Friday, June 17	8:00 AM	INTERNAL DOSIMETRY II	CLOUTIER	E-4
	9:30 AM	Review and Quiz	Beck/Kent	E-4
	11:00 AM	INTERNAL DOSIMETRY III	CLOUTIER	E-4
	1:00 PM	TRITIUM HAZARDS	GIST	E-4
	2:30 PM	Lab: Internal Dosimetry	Cloutier/Kent	E-4

APPLIED HEALTH PHYSICS

June 20 - 24, 1977

FOURTH WEEK

DATE	TIME	TOPIC	LECTURER	ROOM
Monday, June 20	8:00 AM	RADIATION ACCIDENTS	LUSHBAUGH	E-4
	9:00 AM	PROTECTIVE CLOTHING AND RESPIRATORS	BERGER	E-4
	10:30 AM	Lab: Protective Clothing & Respirators	Berger/Beck	E.B.
	1:00 PM	BIOASSAY AND WHOLE-BODY COUNTING	CLOUTIER	E-4
	3:00 PM	Lab: HP-32 Bioassay	Beck/Kent	W-15
Tuesday, June 21	8:00 AM	ELEMENTS OF EMERGENCY PLANNING	SMALLEY	E-4
	9:30 AM	MEDICAL ASPECTS OF INTERNAL CONTAMINATION		E-4
	10:30 AM	ACCIDENT DOSIMETRY	BECK	E-4
	1:00 PM	EMERGENCY PROCEDURES	BECK	E-4
	2:30 PM	Lab: Accident Dosimetry	Beck/Kent	W-14
Wednesday, June 22	8:00 AM	ADVANCED ABSOLUTE COUNTING	GLEASON	E-4
	9:30 AM	Review and Problem Session	Kent	E-4
	11:00 AM	SEMICONDUCTOR DETECTORS	KENT	E-4
	1:00 PM	PARTICLE SPECTROSCOPY	KENT	E-4
	2:30 PM	Lab: (A) HP-28 Particle Spectroscopy	Kent/Paulson	W-1
		(B) HP-38 Advanced Absolute Counting	Gleason	W-1
Thursday, June 23	8:00 AM	AIR SAMPLING AND ANALYSIS		E-4
	9:30 AM	Lab: (B) HP-28 Particle Spectroscopy	Kent/Paulson	W-1
		(A) HP-38 Advanced Absolute Counting	Gleason	W-1
	1:00 PM	NEUTRON ACTIVATION ANALYSIS	GLEASON	E-4
	2:30 PM	Lab: (A) HP-36 Air Sampling	Kent/Beck	W-1
		(B) HP-42 Neutron Activation Analysis	Paulson/Gleason	E.B
Friday,	8:00 AM	ENVIRONMENTAL MONITORING	GIST	E-4
	9:30 AM	Review and Quiz	Beck/Kent	E-4
	11:00 AM	CRITICALITY AND FISSION	CLOUTIER	E-4
	1:00 PM	DECONTAMINATION	KENT	E-4
	2:30 PM	Lab: (A) HP-42 Neutron Activation Analysis	Gleason/Paulson	E.B
		(B) HP-36 Air Sampling	Beck/Kent	W-

APPLIED HEALTH PHYSICS

June 27 - July 1, 1977

FIFTH WEEK

DATE	TIME	TOPIC	LECTURER	ROOM
Monday, June 27	8:00 AM	WATER SAMPLING AND ANALYSIS		E-4
	9:30 AM	Lab: (B) Decontamination	Beck/Kent	W-19
	1:00 PM	CONTAMINATION & SMEAR SURVEYS	BERGER	E-4
	2:30 PM	Lab: (A) HP-33 Decontamination (B) HP-37 Water Analysis	Beck/Kent Kent/Beck	W-19 W-19
Tuesday, June 28	8:00 AM	LOW LEVEL COUNTING	GLEASON	E-4
	9:30 AM	Lab: HP-12 Low Level Counting	Gleason/Paulson	W-19
	1:00 PM	CRITICALLITY SAFETY		E-4
	2:30 PM	Lab: Practice Survey	Beck/Kent	E-4
Wednesday, June 29	8:00 AM	WASTE DISPOSAL	BERGER	E-4
	9:30 AM	Review and Problem Session	Kent	E-4
	11:00 AM	X-RAY FLUORESCENCE	PAULSON	E-4
	1:00 PM	TRANSPORTATION		E-4
	2:30 PM	Lab: (A) HP-47 X-Ray Fluorescence	Paulson/Gleason	E.B
Thursday, June 30	8:00 AM	SEALED SOURCE DESIGN AND TESTING	BERGER	E-4
	9:30 AM	LICENSING REGULATIONS	BECK/BERGER Cloutier/Kent	E-4
	1:00 PM	PUBLIC INFORMATION	ALEXANDER	E-4
	2:00 PM	Field Exercise	Beck/Kent	E-4
Friday, July 1	8:00 AM	Critique	Beck/Kent	E-4
	9:00 AM	Final Exam	Beck/Kent	E-4
	10:00 AM	HEALTH PHYSICS CHALLENGES	CLOUTIER	E-4
	11:00 AM	Commencement	Beck/Kent	E-4
	12:00 N	END OF COURSE		

1990 HEALTH PHYSICS CERTIFICATION EXAMINATION PREPARATION COURSE

Preliminary Schedule

Date	Topic	Assignment
Jan 11	**Introduction to the Course** Charlie Willis, Director, 301-492-1091 Joel Rabovsky, Co-director, 202-602-1223	None
Jan 18	**Radioactivity & Decay** Charlie Willis, NRC	Cember Chapter 4 Prob. 1, 2, 4, 5, 6, & 15; Exam 28: #10
Jan 25	**Interaction With Matter** James Rogers, GU, 202-687-2173	Cember Chapter 5 Probs 1, 3, 19-21, 25, 28, 36
Feb 1	**External Radiation Dosimetry** Charlie Willis	Cember Chapter 6 Prob. 1-6, 13-15
Feb 8	**Shielding** Francis M. Roddy, Bechtel 301-258-3097	Cember Chapter 10 Ex 28 #4; Ex 29 #5 Probs. 1, 2, 3, 5, 6, 8, 13, 16
Feb 15	**Internal Dosimetry** Allen Brodsky, 301-840-5443	Cember Chapter 8 Ex 28: 3, 5; Ex 29 9
Feb 22	**Bioassay** Allen Brodsky	Handouts
Mar 1	**TLD & Film Dosimetry** Eric E. Kearsley, 301-295-5414	Cember, pp 257-262 Exam 28: 11 & 13
Mar 8	**Instrumentation & Spectroscopy** Timothy Osborn, ESA, 301-498-1514	Cember Chapter 9 Problems 12-20
Mar 15	**Biological Effects of Radiation** Kenneth Mossman, GU, 202-653-5505	Cember Ch 7 & NCRP 91 Exam 29: 1 & 6
Mar 22	**Criticality** Charlie Willis	Cember Chapter 12 Problems: all Ch. 12
Mar 29	**Environmental Health Physics** Harold Paterson, NRC, 301-492-3640	Cember pp 339-352 Ex 28 8, 14 Ex 29 7
Apr 5	Break: Chapter Meeting Recommended	
Apr 12	**Industrial Radiography** Steve McGuire, NRC, 301-492-3757 **Statistics** Warren Keene, CU, 202-635-5206	NUREG/BR-0024 Cember pp 282-290 Problems 2, 3, 5, 7
Apr 19	**Transportation** Alfred Grella, NRC, 301-492-3381	Handouts

CHAPTER 2
Training

2-1. GENERAL. The NRC requires that training be given to any employee who works in or frequents the vicinity of any area controlled by the licensee for protection of individuals from exposure to ionizing radiation. The Commander, WRAMC, has implemented training programs pertaining to the hazards of radiation and the methods for minimizing those hazards for radiation workers and other personnel.

2-2. PROGRAMS.

a. Initial Briefing.

(1) The Principal User is responsible for individuals who work under or are associated with work areas designated on his Authorization for the Use of Radioisotopes. He is required to give and document an initial and annual briefing to those individuals which covers, at a minimum, the following:

(a) WRAMC Notice to Employees

(b) Form NRC-3, Notice to Employees

(c) Title 10, Code of Federal Regulations, Parts 19, 20 and 21

(d) Information concerning the storage, transfer and use of radioisotopes allowed under his authorization

(e) Authorization to Use Radioisotopes (WRAMC Form 1661-R, Application for Authorization to Use Radioactive Material - Human Use and/or WRAMC Form 1662-R, Application for Authorization to Use Radioactive Material - Non-human Use)

(f) Hazards and protective measures associated with isotope usage

(g) Procedures for requesting a report of exposure to radiation

(2) This briefing will be given and acknowledged by signing WRAMC Form 538, Radiation Worker Briefing.

b. Introductory Principles of Radiation Protection Course: This two-day course, given by the staff of the HPO, is designed to complete and reinforce training given by the Principal User. It provides supplementary training, in an academic setting, required for the safe handling of

radioisotopes and protection of individuals from external and internal radiation hazards. It is required that all radiation workers attend this course, as soon as possible, after beginning work at WRAMC. An examination is given at the end of this course. If the student fails the exam it may be retaken, after additional preparation, or the student may elect to retake the course. Subsequent failure requires that the Principal User evaluate the advisability of retaining the individual in a position which requires the handling and use of radioisotopes.

c. Principal User Classes. The senior staff of the HPO conducts periodic classes on selected topics. These topics are based on the need to disseminate current information on license and regulation changes, to correct deficiencies which have been noted and to enhance the professional competency of individuals working in radiation environments. This is mandatory for Principal Users. Co-workers are encouraged to attend.

d. Nursing In-service: Briefings, designed for nursing and para-professional staff who come in contact with patients undergoing therapy with radioisotopes, are presented upon request to the HPO. Specific details on the types of therapy or other procedures are covered.

e. Briefing for Support Personnel: This class is designed for individuals whose duties take them into areas where radioisotopes are used. It familiarizes personnel with signs, placards and color schemes associated with radioactive material, gives a general outline of what radiation and contamination are and sets ground rules for what should and should not be done in these areas.

f. Briefing for Firefighters: This briefing covers methods of designating areas where radioactive materials are used, use of radiation detection instrumentation, notification procedures and procedures for ensuring protection from contamination and internal deposition.

g. Briefing for Military Police/Security Personnel: This class teaches the proper method for receiving, inspecting and storing incoming packages containing radioisotopes and addresses the procedures for dealing with problems such as a damaged container or leaking package.

Introductory Principles of Radiation Protection

Presented By: Health Physics Office, WRAMC

For: All users of Radioactive Materials

Length: Two Days (Technicians); One Day (Principle Users)

Location: Building 2, Room 2H02

Dates: 7 and 8 May 1991

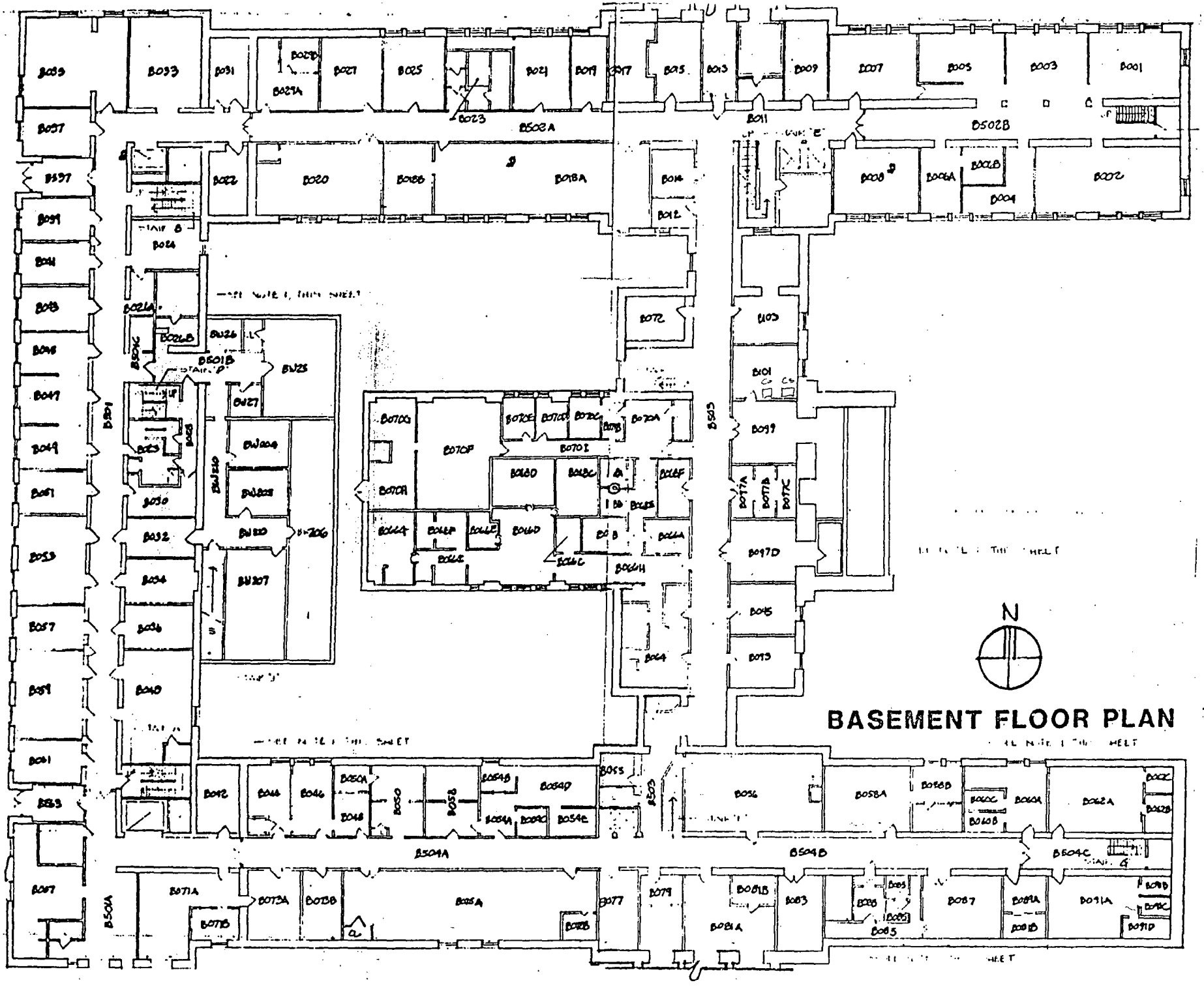
Coordinator: SFC Green, NCOIC, Health Physics Office

Time	Topic	Instructor
0800-0815	Course Registration	SFC Green
0815-0845	Course Introduction	LTC Myers
0845-0900	Break	
0900-0945	Characteristics of Ionizing Radiation	LTC Myers
0945-1000	Break	
1000-1045	Radiation Decay and Units	MAJ Samiljan
1045-1100	Break	
1100-1145	Biological Effects of External Ionizing Radiation Exposures	LTC Myers
1145-1300	Lunch	
1300-1345	Internal Contamination	LTC Myers
1345-1400	Break	
1400-1445	Principles of Radiation Detection; Survey Instrument Selecion and Operation	SFC Green
1345-1400	Break	
1500-1545		

Introductory Principles of Radiation Protection
(second day)

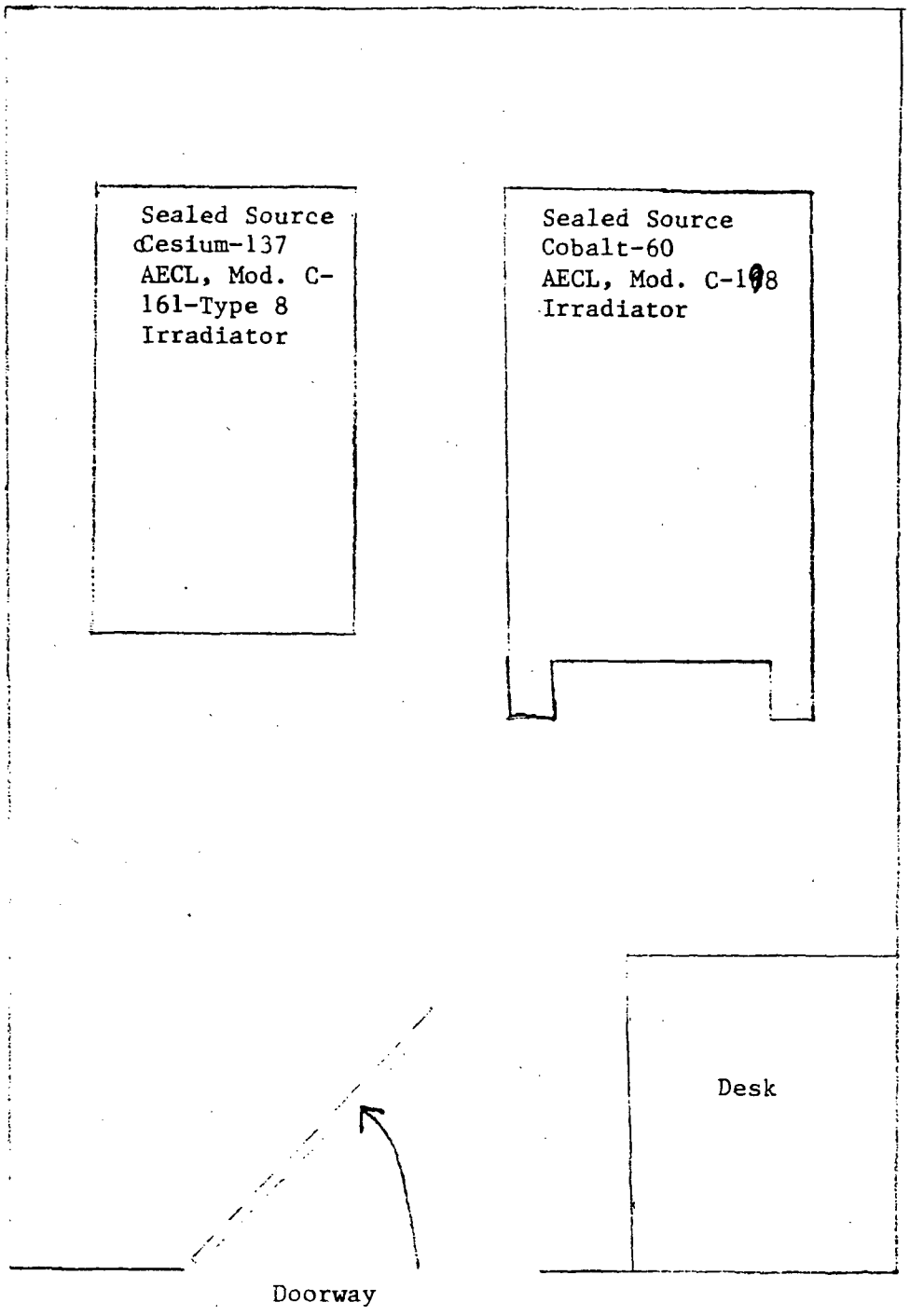
Time	Topic	Instructor
0800-0815	Course Registration for PUs	SFC Green
0815-0845	Course Introduction for PUs	LTC Myers
0845-0900	Break	
0900-0945	Personnel Dosimetry and Bioassay	2LT Cummings
0945-1000	Break	
1000-1045	Radioisotope Lab Set-up; Survey Procedures/Requirements	SSG Lewis
1045-1100	Break	
1100-1145	Incident/Spill Procedures	SFC Green
1145-1300	Lunch	
1300-1345	Radioactive Material Control	Mr. Burton
1345-1400	Break	
1400-1445	Test	SFC Green

Encl 5

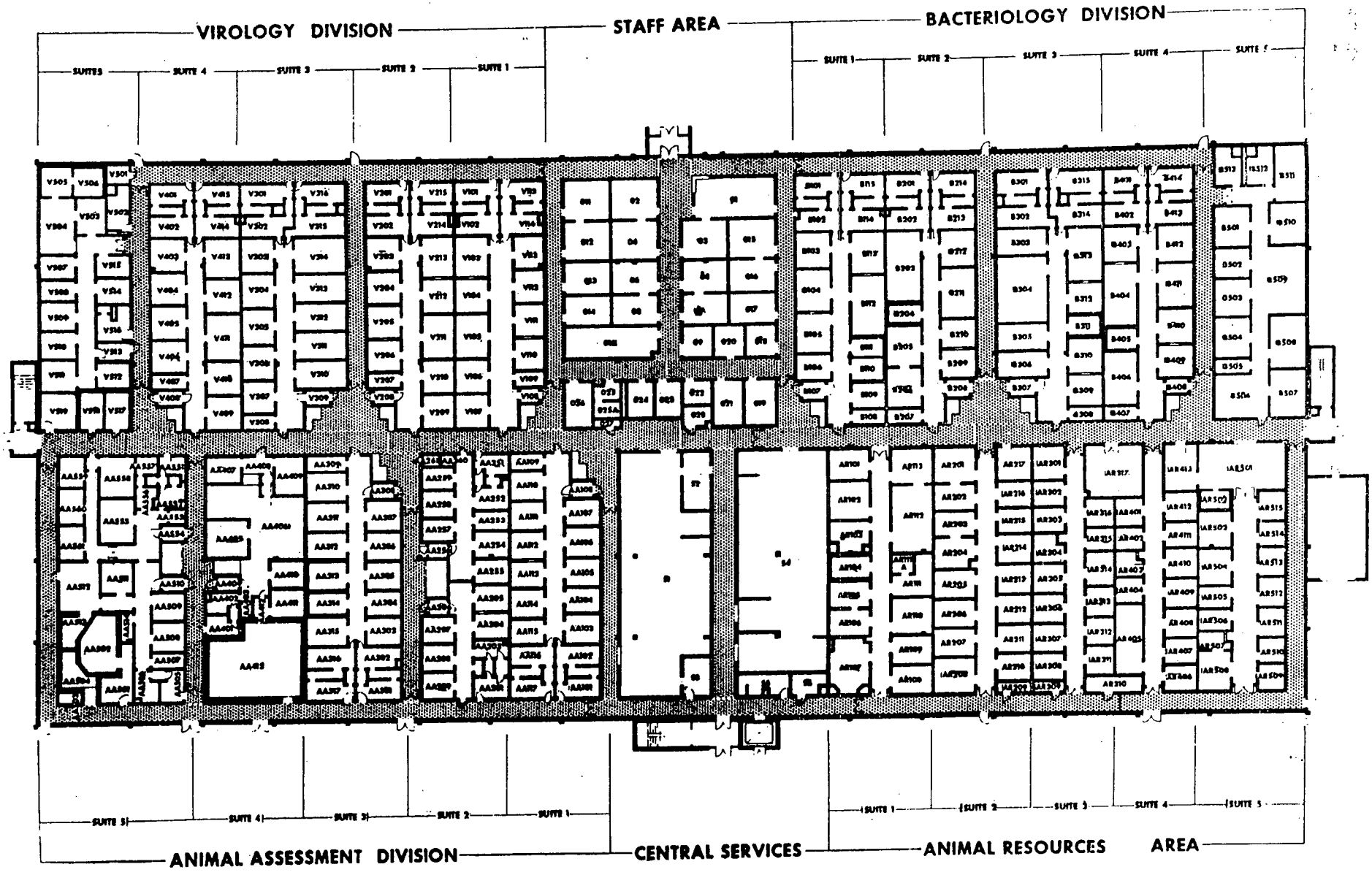


BASEMENT FLOOR PLAN

AR Room 109 Bldg. 1425



Encl 6



FLOOR **PHASE I** PLAN