



Veterans
Administration

June 9, 1981 JUN 24 AM 9 52

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JUN 1 8 1981

NUCLEAR MEDICINE SERVICE
(115)

Materials and Licensing Branch
United States Nuclear Regulatory Commission
Washington, D.C. 20555

THRU: Director, Nuclear Medicine Service (115)
Veterans Administration Central Office
810 Vermont Avenue, N.W.
Washington, D.C. 20420

SUBJ: Amendment - NRC License No. 20-10184-01

1. We would like to amend our NRC license by adding M. David Ullman, Ph.D. to be authorized to use the licensed isotopes previously approved.
2. Enclosed is his resume.

R.E. Nohe
R.E. NOHE
Hospital Director

James J. Smith M.D.
JUN 1 8 1981

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FEE EXEMPT

8507170696 850625
REG1 LIC30
20-10184-01 PDR

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INSPECTION AND ENFORCEMENT

28835

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER M. David Ullman, Ph. D.	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
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3. CERTIFICATION		
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES			
FIELD OF TRAINING A	LOCATION AND DATE (S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Ohio State University 1966	10	5
b. RADIATION PROTECTION	same		
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	same		
d. RADIATION BIOLOG	same		
e. RADIOPHARMACEUTICAL CHEMISTRY	same		

5. EXPERIENCE WITH RADIATION, (Actual use of Radioisotopes or Equivalent Experience)				
ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
³ H	500 mc	U. Michigan & Ohio St. E. K. Shriver	10 years	Research
¹⁴ C	500 mc	Ohio State University U. Michigan, E.K. Shriver	10 years	Resarch
³⁵ S	500 mc	University of Michigan	3 years	Research
³² P	50 mc	University Michigan	3 years	Research



Veterans
Administration

April 27, 1981

Materials and Licensing Branch
United States Nuclear Regulatory Commission
Washington, D.C. 20555



THRU: Director, Nuclear Medicine Service (115)
Veterans Administration Central Office
810 Vermont Avenue, N.W.
Washington, D.C. 20420

SUBJ: Amendment - NRC License No. 20-10184-01

1. We would like to amend License No. 20-10184-01
as follows:

- a.) Add electron capture unit Varian Model
Number 3700. The source is an 8
millicurie Ni-63 source with Model
Number 00-1972, #A025.
- b.) Please delete Mr. Frank Turner as the
radiation protection officer. Add
George Stidworthy, Ph.D. as the new
radiation protection officer. Enclosed
is his resume.

On license

R. E. NOHE
Hospital Director

RECEIVED

APR 30 1981

NUCLEAR MEDICINE SERVICE
(115)

8412040249 841123
NMS LIC30
20-10184-01 PDR

FEE EXEMPT

JAMES J. SMITH, M.D. (115)
Director, Nuclear Medicine Service
VA Central Office
Washington, D.C. 20420

(B-78)

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER

George H. Stidworthy, Ph.D.

2. STATE OR TERRITORY IN
WHICH LICENSED TO
PRACTICE MEDICINE

3. CERTIFICATION

SPECIALTY BOARD
ACATEGORY
BMONTH AND YEAR CERTIFIED
C

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Univ. of South Dakota 1948-49	48	48
	Univ. of Oklahoma 1951-1957	48	12
b. RADIATION PROTECTION	same		
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	same		
d. RADIATION BIOLOGY	same		
e. RADIOPHARMACEUTICAL CHEMISTRY	same		

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
⁶⁰ CA	500mc	U.S.D	1 year	Lab/Civil Defence
³ H	500mc	U.S.D., OU, Oklahoma Med.		
¹⁴ C	100m	Research, VA Okla. City	30 years	Research
³⁵ S	500mc	VA Martinsburg, VA Bedford	4 years	Research/Therapy
³² P	50mc	VA Bedford	1 year	Research
¹³¹ I	2mc	VA Martinsburg	4 months	Research/Therapy

07806

OFFICIAL
USE ONLY

DEVICE

cell

Part #

02-000972-00

Foil 56-000612-00, NEN

USE: NER-002

Gas chromatography

MANUFACTURER & DISTRIBUTOR:

Varian Instrument Division (VID)

Walnut Creek, California

ISOTOPE:

Hydrogen 3: Titanium tritide; 250 mCi maximum; U.S. Radium Corp. Model IAB 508-3*;
VID P/N (Part number) 56-000602-00.

Hydrogen 3: Scandium tritide; 1 Ci maximum; U.S. Radium Corp. Model IAB 508-2*;
VID P/N 56-000626-00.

Nickel 63: 8 mCi maximum; New England Nuclear Corp. Model NER-002; VID P/N
56-000610-00.

MODEL DESIGNATION:

SOURCE P/N	FOIL REPLACEMENT KIT P/N [®]	DETECTOR CELL ASSEMBLY P/N	DETECTOR KIT P/N [®]	G C INSTRUMENT MODEL NUMBER & #
56-000602-00	02-000320-00	01-000046-00	02-000104-00	550, 600, 204B, 204C 1500B, 1500C
56-000602-00	02-000320-00	02-000650-00	02-000956-00, 02-000956-01	940, 1400, 1700, 1800, 2400 (B Chan), 2700, 2800 2400 (A Chan)
56-000602-00	02-000320-00	02-000650-00	02-000645-00	1200, 2100
56-000602-00	96-000131-00	01-000383-00	02-000390-00	1731, 1732, 2731, 2732
56-000626-00	96-000111-00	02-001681-01	96-000092-00 96-000093-00 96-000094-00 96-000095-00	940, 1400, 2400 (B Chan) 2400 (A Chan) 1200, 2100 1700, 1800, 2700, 2800
56-000610-00		02-000959-00 01-001028-00	02-000965-00 02-000955-01 02-000770-00 02-000771-00 02-001972-00	940, 1400, 1700 1800, 2400 (B Chan), 2700, 2800 2400 (A Chan) 1200, 2100 204A, 204B, 204C, 1500A, 1500B, 1500C 3700

1932
m5



Veterans
Administration

September 4, 1980

Nuclear Regulatory Commission
Material Licensing Branch
Division of Fuel Cycle and Material
Safety
Washington, D. C. 20555



Attention: Michael Lamonstra

Gentlemen:

Regarding your comments in your letter of August 25, 1980, we are changing our removable contamination limits to 200DPM/100 square centimeters. We are furnishing you with the revised procedures. Please substitute these revisions for the originals.

Sincerely,

R. E. NOHE
Hospital Director

FOR AND IN THE
ABSENCE OF

Encl: P. 2
Appendix II

SEP 8 PM 12 23

ML10

"OFFICIAL RECORD COPY"

In Reply Refer To: 518/151

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INSPECTION AND ENFORCEMENT

(-8010090468) 3pp

July 25, 1980
Page 2 of 5
Nuclear Regulatory Commission

Contamination limits = $200 \text{ dpm}/100 \text{ cm}^2$ - if area exceeds this then decontaminate must be instituted.

6. Item 23 - Delete the reference to activity restriction of Iodine 125 and Hydrogen -3 activity levels that users work with. Tritium bioassay procedures are described elsewhere. If an individual works with unbound radioiodines (1 millicurie or above in an open system the following will apply: (no radioiodination to exceed 5 mci at one time)

- a. Iodinations will be performed in a well ventilated hood (>100 linear feet per minute face velocity).
- b. The iodination will be air monitored by R.P.O. for effluents to unrestricted areas. Action level is $1/10$ MPC.
- c. Individuals performing radioiodination will be required to submit thyroid bioassays within 72 hours after use. Action level is .12 uci I-125 and .04 uci I-131.

7. Item 24 - Add R. S. Landauer Jr., Glenwood Illinois as an alternative supplier of whole body badges and/or TLD Finger Rings.

We would like to inform you that we have hired Mr. Victor N. Evdokimoff M. S. as a health physics consultant to the Edith Nourse Rogers Memorial Veterans Hospital, Bedford, MA. Mr. Evdokimoff has extensive experience as a health physicist in this area (resume enclosed). He will advise and assist our Radiation Protection Officer on a regular basis as necessary.

Letter

1. The duties of our Radiation Protection Officer, some of which you mentioned in items a. - e. are many. The duties and responsibilities reduce simply to providing safety to occupational and non-occupational personnel from the possession, use, disposal and transportation of radioactive material at the ENRM Veterans Hospital. In addition, the R.P.O. ensures that any offsite releases of radioactivity to the environment are as low as reasonably achievable.

Other responsibilities of our Radiation Protection Officer includes:

- a. Formulate and implement the institutions radiation safety educational programs.
- b. Provide bioassay services as required.
- c. Coordinate the radioactive waste disposal service.
- d. Be present during any hazardous procedure with the user.
- e. Take appropriate corrective action in the event of radiation safety infractions.
- f. Supervise any emergency conditions as major spills or personnel contamination.

APPENDIX IIANIMAL CARE

Each user authorized to administer radionuclides to animals shall furnish instructions to animal care personnel. Under no circumstances are animal care personnel to be involved in radioactive animals unless thoroughly briefed.

A. Rules for Animal Care

- (1) "Caution Radioactive Material" signs must be clearly visible on the cages and animal care personnel must be personally instructed by the authorized user or R.P.O. in proper care procedures.
- (2) Rubber gloves and lab coats must be worn when handling animals or cleaning cages.
- (3) If significant exposure exists from radioactive animals, animal care personnel must wear dosimeters and avoid unnecessary contact with animals.
- (4) Discard all animal waste in container provided for this purpose by authorized user. (Do not put in normal trash).
- (5) Authorized user shall be responsible for disposal of waste or carcasses.
- (6) No material (including cages) will be returned to normal use unless survey or wipe test shows a radioactive level below 200 dpm/100 cm².

AUG 25 1980

FCMLB:MAL
030-01927
(99337)

Veterans Administration Hospital
ATTN: R. E. Nohe
Director
200 Springs Road
Bedford, MA 01730

Gentlemen:

This is in reference to your letter dated July 25, 1980, providing to us information requested in our February 26, 1980 letter. In order to renew your license, we need clarification on one item.

Your proposed removable contamination limits of 2,200 DPM/100 square centimeters for laboratories and 2,000 DPM/100 square centimeters for animal cages are too high. Currently, the Commission will accept for an active NRC license removable contamination of no more than 200 DPM for a typical laboratory. Accordingly, you should revise your procedures and submit them to this office.

Upon receipt of this information, we will be pleased to renew License No. 20-10184-01.

Sincerely,

Michael A. Lamastra
Material Licensing Branch
Division of Fuel Cycle and
Material Safety

cc: Central Veterans Administration Office
ATTN: Dr. James D. Smith
Nuclear Medicine Service (112-H)
810 Vermont Avenue, NW
Washington, DC 20420

CRESS
Lamastra 3/f
8/18/80

FCMLB *MLB*
MALamastra
8/25/80

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ms



Veterans
Administration

July 25, 1980

RECEIVED

AUG 5 1980

NUCLEAR MEDICINE SERVICE
(115)



Nuclear Regulatory Commission
Materials Licensing Branch
Washington, D.C. 20555
ATTN: Michael A. Lemastra

Control #99337

Gentlemen:

We would like to correct some items on form NRC-313M as well as respond to the questions of your February 26, 1980 letter concerning our license renewal #20-10184-01.

NRC 313M Changes:

1. Item 2 - Delete David I. Kurtz, Ph.D. as he has left the institution and add Victor N. Evdokimoff, M.S.
2. Item 4 - Delete Fred A. Rundlett as Radiation Protection Officer and add Frank W. Turner, Radiation Protection Officer (resume enclosed).
3. Item 6b -

<u>Radionuclide</u>	<u>Chemical and a Physical Form</u>	<u>Possession Limit</u>
Hydrogen 3	Any	No change
Calcium 45	"	5 mci
Carbon 14	"	20 mci
Phosphorus 32	"	30 mci
Sulphur 35	"	No change
Iron 59	"	No change
Iodine 131	"	No change
Iodine 125	"	20 mci
Chromium 51	"	20 mci

4. Item 10 - Instrument calibration to be performed by other qualified firms or individuals as an alternative to manufacturer calibration.

5. Item 7 - Please delete the reference to Regulatory Guide 10.8 for area survey requirements. Will constitute the following survey frequency:

- a. Users - minimum survey of once a month after use of radioisotopes.
- b. Radiation Protection Office - minimum survey of once a month using millicurie quantities of radioisotopes. Less than one millicurie minimum survey frequency of once every two months. Additional frequency based on radiotoxicity, exposure potential, volatility, etc.

In Reply Refer To:

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(8009050206) 22pp.

July 25, 1980
Page 2 of 5
Nuclear Regulatory Commission

Contamination limits = 2200 dpm/100 cm² - if area exceeds this then decontaminate must be instituted.

6. Item 23 - Delete the reference to activity restriction of Iodine 125 and Hydrogen -3 activity levels that users work with. Tritium bioassay procedures are described elsewhere. If an individual works with unbound radioiodines (1 millicurie or above in an open system the following will apply: (no radioiodination to exceed 5 mci at one time)

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- b. The iodination will be air monitored by R.P.O. for effluents to unrestricted areas. Action level is '1/10 MPC.
- c. Individuals performing radioiodination will be required to submit thyroid bioassays within 72 hours after use. Action level is .12 uci I-125 and .04 uci I-131.

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Letter

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Other responsibilities of our Radiation Protection Officer includes:

- a. Formulate and implement the institutions radiation safety educational programs.
- b. Provide bioassay services as required.
- c. Coordinate the radioactive waste disposal service.
- d. Be present during any hazardous procedure with the user.
- e. Take appropriate corrective action in the event of radiation safety infractions.
- f. Supervise any emergency conditions as major spills or personnel contamination.

2. We will limit authorized individuals to no more than 10 millicurie use of P-32 at any one time. Because of the fact that P-32 beta rays can travel up to 20 feet in air from unshielded open stocks, we will institute items a. - e. as described in your letter. We would like to add the following:

a. Working quickly and maximizing personnel distance from open stocks of P-32 to minimize exposure - this is especially important for the face and hands.

b. Double gloving of hands to reduce exposure and protect skin from radioactive contamination.

3. We would like to remove this restriction of 1 millicurie of organic tritium; we therefore are instituting a bioassay program when 10 millicuries or more of organic tritium are handled. Individuals who handle this amount will be required to submit a urine sample 24 hours, but no sooner than 4 hours, after use. The frequency of sampling including any pre-use samples will be determined by the R.P.O. Urine samples will be analyzed by liquid scintillation counting with appropriate standards and quench corrections. The action level is 1/10 weekly permissible dose limit of 100 millirem (10 millirem). This action level is 2.3 uci H-3 per liter of urine. Levels below 1/10 MPD do not require investigation by the Radiation Protection Officer.

4. The diagrams were submitted, it appears, without the key to the areas noted. We are including this key (enclosure).

As of now we are not using gamma or hard beta emitters. If and when we do we plan to do the following for any lab using the above:

a. Store all stocks over 1 millicurie in their original lead pigs or lead castle.

b. Place these stocks for storage in remote areas of the laboratory, e.g., (back of hood) to utilize distance and shielding to minimize exposure potential to occupational and non-occupational personnel.

c. When working with these materials utilize appropriate shielding, i.e., lead 7-10 half value layers or 1/2 inch plexiglas if possible (P-32).

d. Utilize remote handling tools or maximize distance from millicurie stocks.

e. Work quickly when handling these stocks.

f. Monitor exposure potential through area monitoring by way of a survey meter.

g. Follow any other additional advise of the R.P.O. to reduce exposure potential to a minimum.

July 25, 1980
Page 4 of 5
Nuclear Regulatory Commission

5. Radioactive materials once received on the site, will be expeditiously delivered to a central receiving area for survey. The shipment will be surveyed in accordance with 10CFR20-205. If approved for dispersment, the package(s) will be transferred to the authorized user.

Off-hour deliveries: the receiving room is closed during off hours. No one is authorized or will receive radioactive material during off hours, only during normal working hours of 8:00 a.m. - 4:30 p.m., Monday thru Friday.

Security: All radioactive packages unattended in authorized areas will be locked to prevent unauthorized removal.

6. Methods for auxiliary personnel to be informed about radiation hazards and precautions. Provide:

- a. Verbal instruction with supervisory personnel and auxiliary personnel who may enter restricted areas.
- b. Written instructions to supervisory personnel of auxiliary personnel.
- c. No auxiliary personnel will enter a restricted area until indoctrinated.

Methods for radiation workers to be informed about radiation hazards and procedures:

- a. Verbal indoctrination to all radiation workers commensurate with the radioisotope(s) and activity that will be used on site.
- b. Written instructions to all radiation workers concerning the radiation safety program of the institution.
- c. No radiation worker will use radioactive material until indoctrinated.

We confirm that instruction in items a. and b. will be given initially and annually thereafter.

7. See Appendix I

8. See Appendix II

9. We would like to modify our procedures to allow for holding of short half life material in inaccessible areas for decay as non-radioactive waste. This waste will be monitored by a survey meter to verify that it is non-radioactive prior to disposal as non-radioactive.

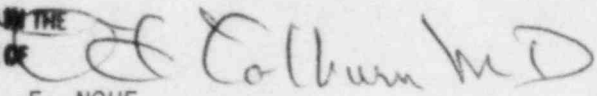
10. We would like to add extremity monitors in the form of thermoluminescent dosimeters worn as a finger ring when individuals use routinely millicurie quantities of high energy gamma and beta emitters.

July 25, 1980
Page 5 of 5
Nuclear Regulatory Commission

11. a. Enclosed.

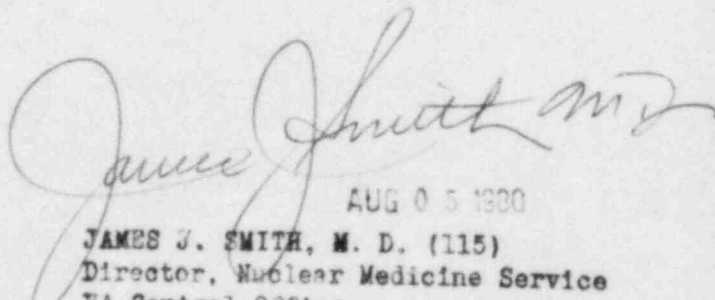
b. When Dr. Sherwin has received 200 hours of supervised laboratory experience under one of our authorized users or through a formal course in radioisotope handling we will submit this documentation to add him as an authorized user.

FOR AND IN THE
ABSENCE OF


R. E. NOHE
Hospital Director

Attachments

cc: Central Office
Mr. Frank Turner
Dr. Ira Sherwin
Mr. Victor Evdokimoff


AUG 05 1980
JAMES J. SMITH, M. D. (115)
Director, Nuclear Medicine Service
VA Central Office
Washington, D.C. 20420

APPENDIX I

Safety Rules

Only persons who are authorized at this institution may use radioactive material. Each individual is responsible for complying with the procedures and precautions for storage, labeling, handling and disposal contained in this document, those established by his laboratory and the general laboratory rules listed below.

- (1) There shall be no pipetting by mouth of radioactive solutions unless specifically authorized by the R.P.O.
- (2) Choose non-porous bench tops covered with absorbent paper that has plastic backing as a work area. Use stainless steel or plastic trays to help confine spills wherever possible.
- (3) Wear film badges on body and/or hands where applicable. Ascertain from your supervisor or R.P.O. whether or not your work involves sufficient hazard to internal exposure to require bioassays, and comply.
- (4) When working with gamma emitters or hard betas, work quickly, maximize distance and utilize appropriate shielding to minimize exposure.
- (5) Never perform radiochemical procedures with hazardous levels of material until the procedure has been tested by a "dry-run" to preclude unexpected complications.
- (6) There shall be no smoking, eating, or storage of food in any area where unsealed and unpackaged sources of radioactive material are being used, handled, transferred, or stored.
- (7) Where hand or clothing contamination is possible, protective gloves and a lab coat shall be worn.
- (8) When performing procedures that might produce airborne contamination, approved exhaust ventilation shall be used.
- (9) The R.P.O. shall be notified immediately during the day or by off hour emergency phone number if any of the following circumstances are known or suspected:
 - (a) Exposure to external radiation in excess of 10CFR20 occupational values.
 - (b) Inhalation, injection or ingestion of radioactive materials, by accident.
 - (c) Accidental release of radioactive material to laboratory atmosphere, surfaces, drains or ventilation systems.
 - (d) Spills or personnel contamination.
 - (e) Theft or loss of radioactive material.
- (10) Avoid transporting contaminated articles from the work area through clean areas of the laboratory by keeping radioactive waste receptacles nearby, making sure that waste receptacle is properly labeled.
- (11) Check work area as indicated in your Radiation Protection Plan by GM survey or wipe tests, as applicable.

APPENDIX IIANIMAL CARE

Each user authorized to administer radionuclides to animals shall furnish instructions to animal care personnel. Under no circumstances are animal care personnel to be involved in radioactive animals unless thoroughly briefed.

A. Rules for Animal Care

(1) "Caution Radioactive Material" signs must be clearly visible on the cages and animal care personnel must be personally instructed by the authorized user or R.P.O. in proper care procedures.

(2) Rubber gloves and lab coats must be worn when handling animals or cleaning cages.

(3) If significant exposure exists from radioactive animals, animal care personnel must wear dosimeters and avoid unnecessary contact with animals.

(4) Discard all animal waste in container provided for this purpose by authorized user. (Do not put in normal trash).

(5) Authorized user shall be responsible for disposal of waste or carcasses.

(6) No material (including cages) will be returned to normal use unless survey or wipe test shows a radioactive level below 2000 dpm/100 cm².

(8-78)

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER

Frank W. Turner

2. STATE OR TERRITORY IN
WHICH LICENSED TO
PRACTICE MEDICINE

3. CERTIFICATION

SPECIALTY BOARD
ACATEGORY
BMONTH AND YEAR CERTIFIED
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4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE (S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Harvard University, Boston School of Public Health Industrial Hygiene	50	
b. RADIATION PROTECTION	Harvard University, Boston School of Public Health Industrial Hygiene	50	
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	Mass. State Civil Defense Radiological Monitoring	10	
d. RADIATION BIOLOGY			
e. RADIOPHARMACEUTICAL CHEMISTRY			

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE

"OFFICIAL RECORD COPY"
ML10

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER LADISLAV VOLICER, M.D.	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
--	--

3. CERTIFICATION

SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Charles University, Prague, Czechoslovakia, 1958-1959 National Heart Institute, National Institutes of Health Bethesda, MD, 1965-1966	10	100 200
b. RADIATION PROTECTION	see above		
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	see above		
d. RADIATION BIOLOGY	see above		
e. RADIOPHARMACEUTICAL CHEMISTRY	see above		

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
^{131}I	1mCi	Charles University, Prague, Czechoslovakia	1 year	animals
^3H , ^{14}C	1mCi	N.H.I., N.I.H.	1 year	animals
^3H	1mCi	Czechoslovakia Academy of Sciences	2 years	animals
^3H , ^{14}C				
^{131}I , ^{51}Cr	1mCi	Boston Univ. Sc. of Med.	9 years	animals
^{86}Rb				

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER

2. STATE OR TERRITORY IN
WHICH LICENSED TO
PRACTICE MEDICINE

Michael J. Malone, M.D.

3. CERTIFICATION

SPECIALTY BOARD
A

CATEGORY
B

MONTH AND YEAR CERTIFIED
C

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING
A

LOCATION AND DATE(S) OF TRAINING
B

TYPE AND LENGTH OF TRAINING

LECTURE/
LABORATORY
COURSES
(Hours)
C

SUPERVISED
LABORATORY
EXPERIENCE
(Hours)
D

a. RADIATION PHYSICS AND
INSTRUMENTATION

Harvard Medical School
Dept. of Biol. Chem.

2 years

b. RADIATION PROTECTION

Graduate Training
Harvard Medical School
Dept. of Biol. Chem.

2 years

c. MATHEMATICS PERTAINING TO
THE USE AND MEASUREMENT
OF RADIOACTIVITY

Harvard Medical School
Dept. of Biol. Chem.

2 years

d. RADIATION BIOLOGY

e. RADIOPHARMACEUTICAL
CHEMISTRY

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE

MAXIMUM AMOUNT

WHERE EXPERIENCE WAS GAINED

DURATION OF EXPERIENCE

TYPE OF USE

C14

1 mCi

Harvard Medical School
Dept. of Biol. Chem.

2 years

Biochemical &
animal study

H3

1 mCi

same as above

2 years

same as above

FORM NRC-313M-SUPPLEMENT A
(8-78)

U.S. NUCLEAR REGULATORY COMMISSION

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER Kalidas Nandy	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
---	--

3. CERTIFICATION

SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Emory University Medical School		13 years
b. RADIATION PROTECTION	See Above		13 years
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	See Above		13 years
d. RADIATION BIOLOGY	See Above		13 years
e. RADIOPHARMACEUTICAL CHEMISTRY	See Above		13 years

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
^3H	13 mci	Emory University	13 years	Animal Experiment
^{14}C	5 mci			
^{51}Cr	2 mci			
^{125}I	5 mci			
^{131}I	5 mci			

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M110

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER ~~OR RADIATION SAFETY OFFICER~~2. STATE OR TERRITORY IN
WHICH LICENSED TO
PRACTICE MEDICINE

Deepak N. Pandya

3. CERTIFICATION

SPECIALTY BOARD
ACATEGORY
BMONTH AND YEAR CERTIFIED
C

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Harvard Medical School	approx. 10 hours	4 hours
b. RADIATION PROTECTION	See Above		
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY			
d. RADIATION BIOLOGY			
e. RADIOPHARMACEUTICAL CHEMISTRY			

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
H ³ prolein leucin	100 uci 100 uci	Beth Israel Hospital Boston City Hospital	5 years " "	H ³ prolein H ³ leucin

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER Choompol Mahasaen, M.D.			2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE Massachusetts	
3. CERTIFICATION				
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C		
American Board of Pathology Clinical Anatomic	- -	May 1976		
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES				
FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING		
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D	
a. RADIATION PHYSICS AND INSTRUMENTATION	St. Elizabeth's	320		
b. RADIATION PROTECTION	Hospital of Boston Brighton, MA 02135			
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	Salem Hospital			
d. RADIATION BIOLOGY	Salem, MA			
e. RADIOPHARMACEUTICAL CHEMISTRY				
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)				
ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
I ¹²⁵ Co ⁵⁷ H-3 T-99 I ¹³¹	30 mci	St. Elizabeth's Hospital Brighton, MA Salem Hospital, Salem, MA VAH, Bedford, MA	5 years	in vitro

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RESUME:

Name: Victor Nicholas Evdokimoff

Born: August 27, 1944
Boston, Massachusetts

Address: 4 Beach Street
Norton, Massachusetts 02766

Telephone: (617) 285-7348 Home
(617) 247-5212 Work

Marital Status: Married, 2 children

EDUCATION:

Boston University	1962-1966	B.A. Biology
Northeastern University	1966-1969(evenings)	M.S. Health Science
Johns Hopkins University	1969-1971	ScM Radiological Science

EXPERIENCE:

- 1) Radiation Protection Officer - Boston University Medical Center,
Boston, Massachusetts
August, 1977- present. Responsible for radiation safety of radioisotopes at the medical and dental school, Naval Blood Research Laboratories, and University Hospital. This consists of radioisotopes in research, in-vitro laboratories, nuclear medicine and radiation therapy.
- 2) Regulatory Affairs Administrator / Radiation Safety Officer -
Gamma Diagnostic Laboratories
Attleboro, Massachusetts
January, 1974 - July, 1977. Responsible for compliance with all federal, state, and local regulations involving handling, use, and transportation of radiopharmaceuticals. Responsible for radiation safety of facility handling 200 Curies Molybdenum and Technetium ^{99m}Tc.
- 3) Manager Radiopharmaceutical Service - Georgetown University Hospital
and Washington Hospital Center
Washington, D.C.
November, 1971 - March, 1972. Responsible for preparing radiopharmaceuticals and consolidating resources between the two hospitals. Responsible for radiation safety of the program.

ML10

- 4) Manager Quality Control / Health Physics Assistant -
Cambridge Nuclear
Cambridge, Massachusetts
August, 1966 - August, 1969. Responsible for quality control of finished radioactive drugs. Assisted Health Physics staff with smears, surveys, and decontamination operations.

PUBLICATIONS

- 1) Evdokimoff, V.N. and Wagner, H.N., Jr. " Role of Hepatic Phagocytosis in Increasing Heavy Metal Toxicity." Journal of Nuclear Medicine. 12: June, 1971 (Abstract).
- 2) Evdokimoff, V.N. and Wagner, H.N. Jr. " Hepatic Phagocytosis as a Mechanism for Increasing Heavy Metal Toxicity." Journal of the Reticuloendothelial Society. 11: 148-149, February, 1972.
- 3) Evdokimoff, V.N. and Wagner, H.N., Jr. "Reduction of Indium Toxicity by Blockage of the Reticuloendothelial System." Journal of the Reticuloendothelial Society. 11:599-603, June, 1972.
- 4) Evdokimoff, V.N. and Burrows, B.A. " A Simple Method to Assay Phosphorous-32 for Radiotherapy Applications." Journal of Nuclear Medicine. 19: 1365, December, 1979.
- 5) Evdokimoff, V.N. " Hot Lab Radiopharmaceutical Accident: Potential Airborne Release." Journal of the Health Physics Society. (To Be Published), 1980.

PROFESSIONAL ASSOCIATIONS

Health Physics Society
International Radiation Protection Association
New England Chapter Health Physics Association
American Standards Institute N44.3 (Nuclear Medicine)

BUILDING 18 GRECC RESEARCH LABORATORIES

	RM.
A. sink	216
B. bench top	216
C. refrigerator	216
D. sink	213
E. bench top	213
F. scintillation counter	213
G. corner hood	207
G1. refrigerator	207
H. bench top	207
I. sink	207
J. scintillation counter	219
K. bench	219

BUILDING 17 RESEARCH

L. sink (animal surgery)	17
M. disposal can	17
N. freezer (animal)	17A
O. scintillation counter	1
P. refrigerator	3
Q. bench top	8
Q1. hood	8
R. sink	104
S. hood	104
T. bench	104
U. refrigerator	104

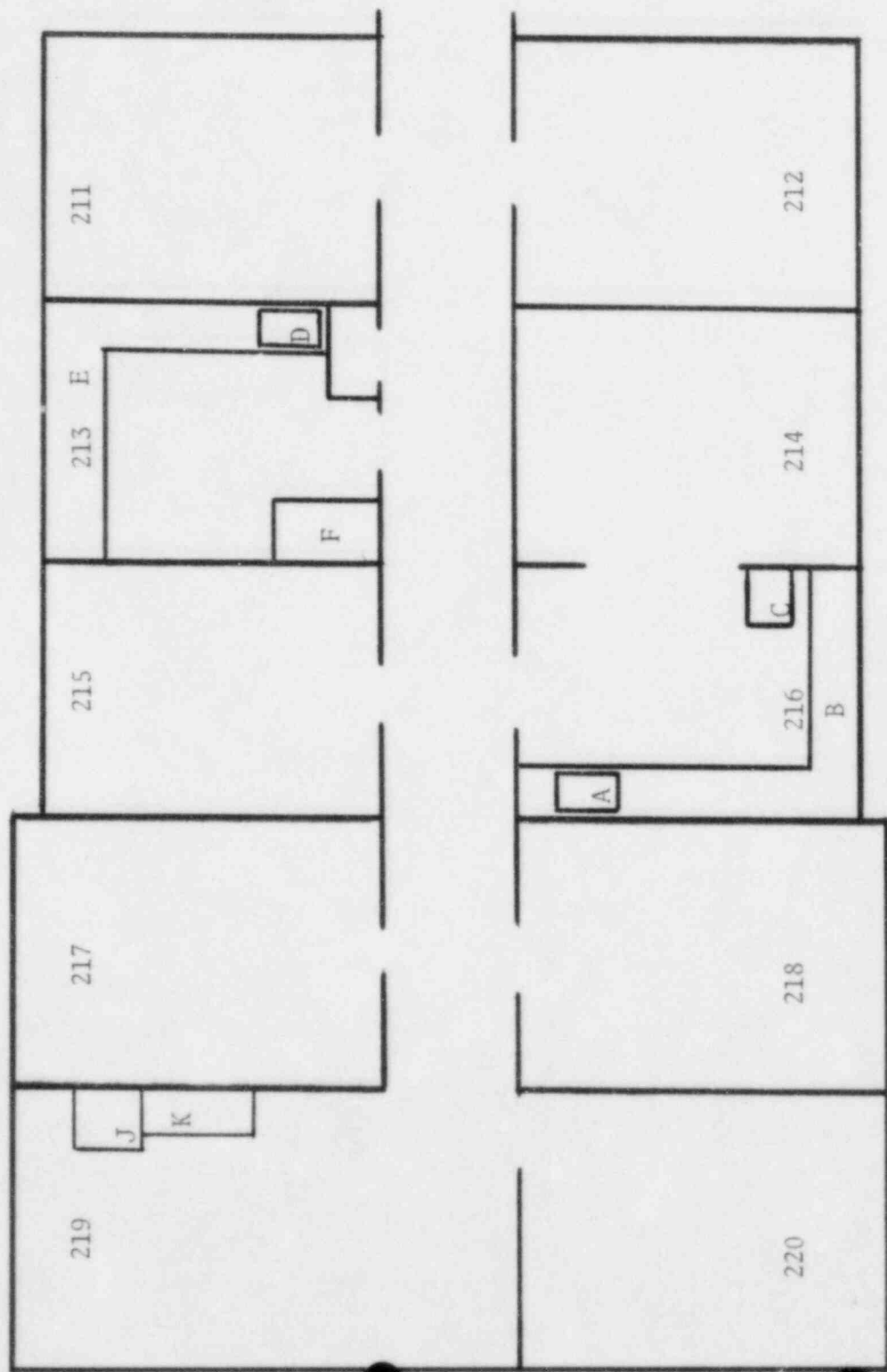
BUILDING 29 RADIOACTIVE DRUM STORAGE ONLY

V. Interex disposal drums

BUILDING 2 CLINICAL LABORATORY

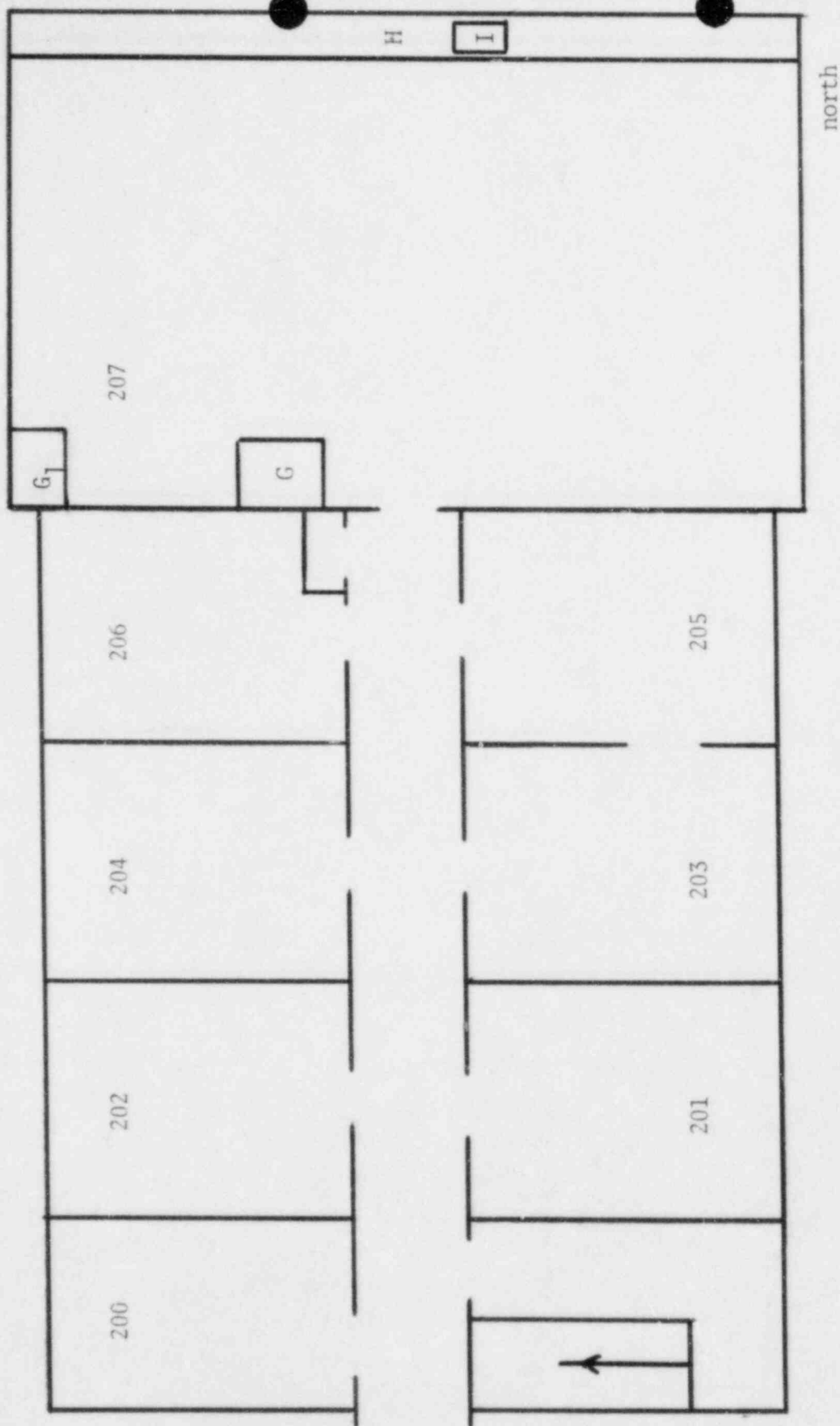
W. bench	155
X. refrigerator	155
Y. hot sink	155

"OFFICIAL RECORD COPY"
ML18

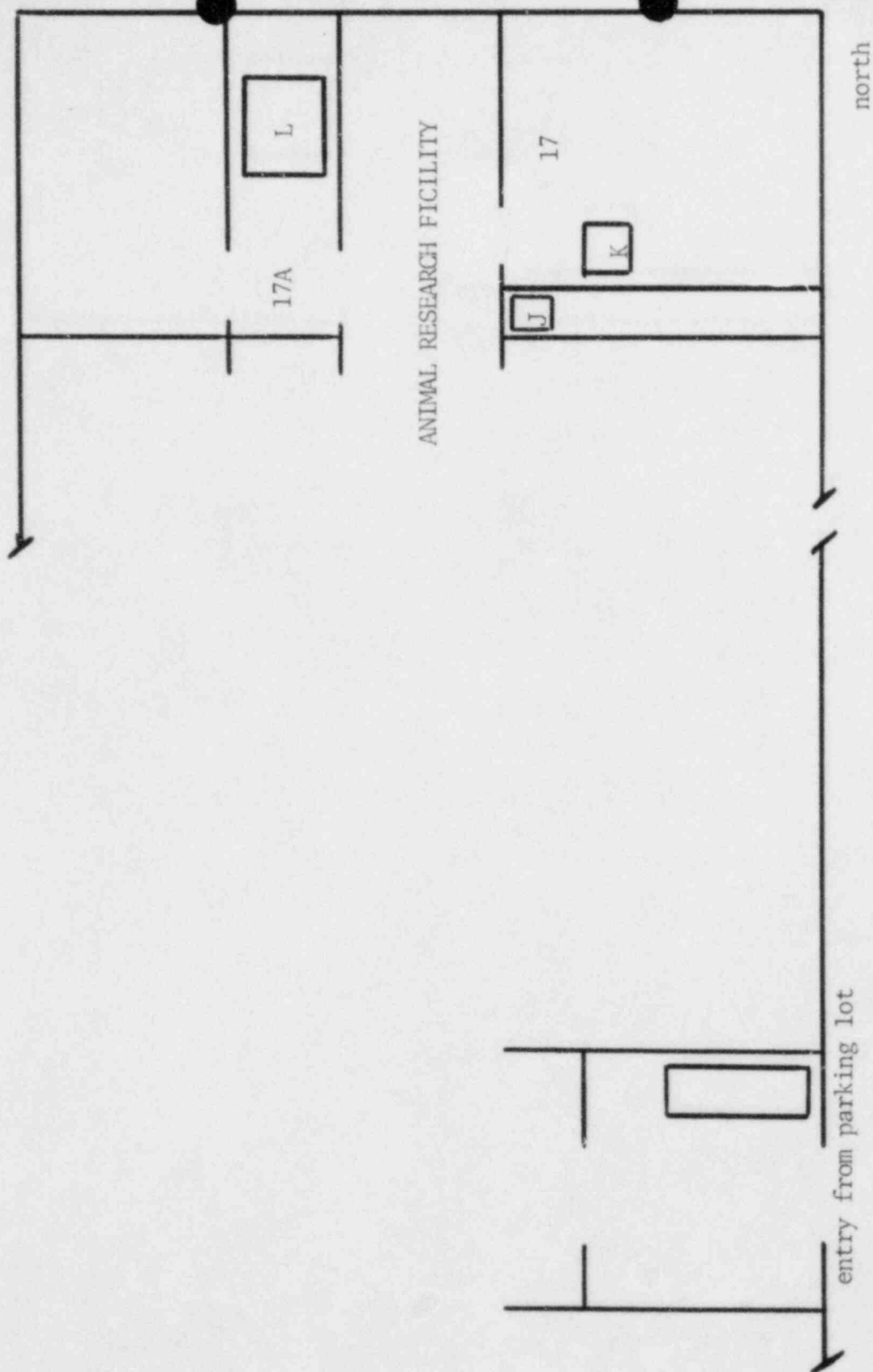


BUILDING 18 (second floor)

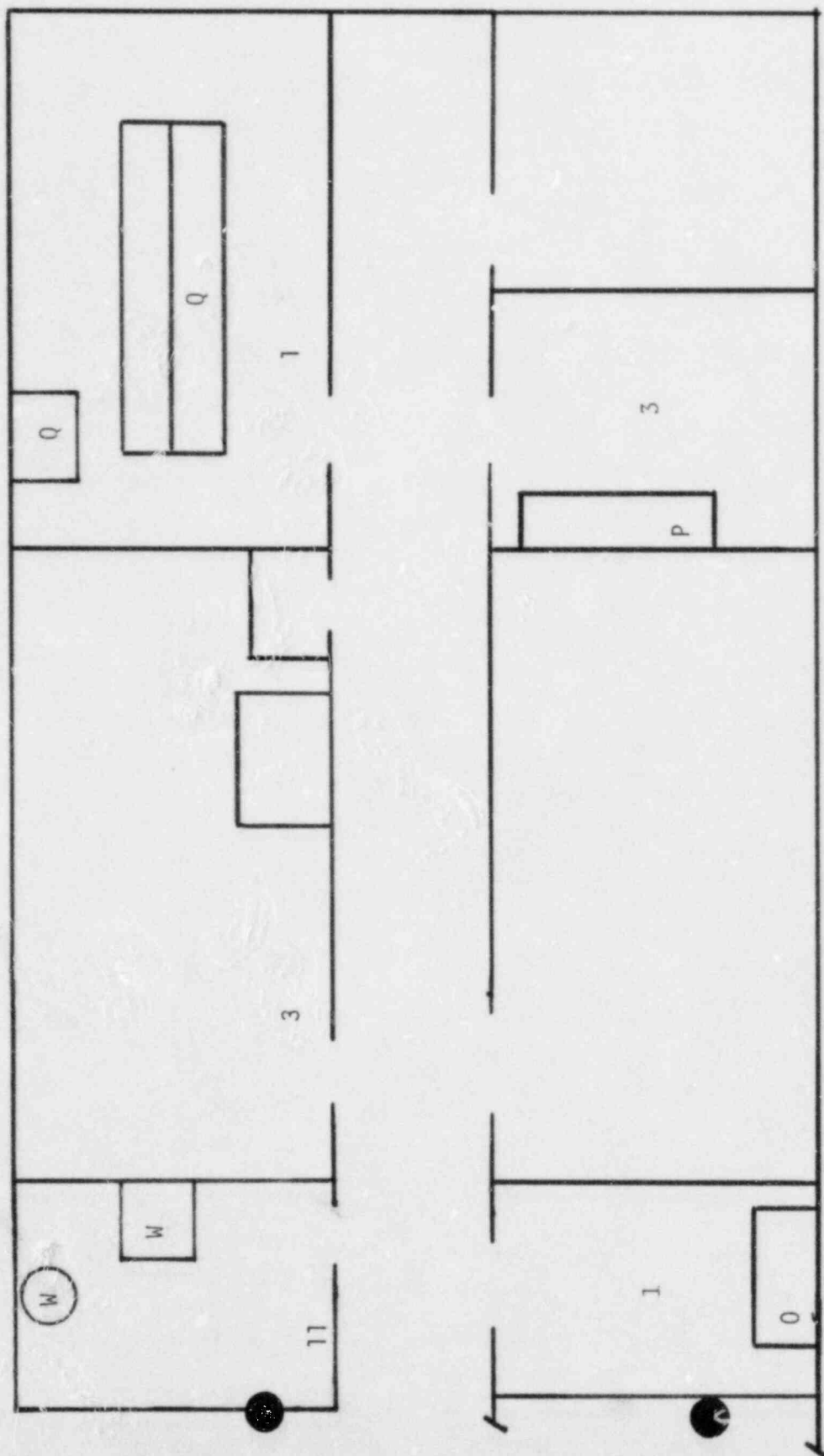
south



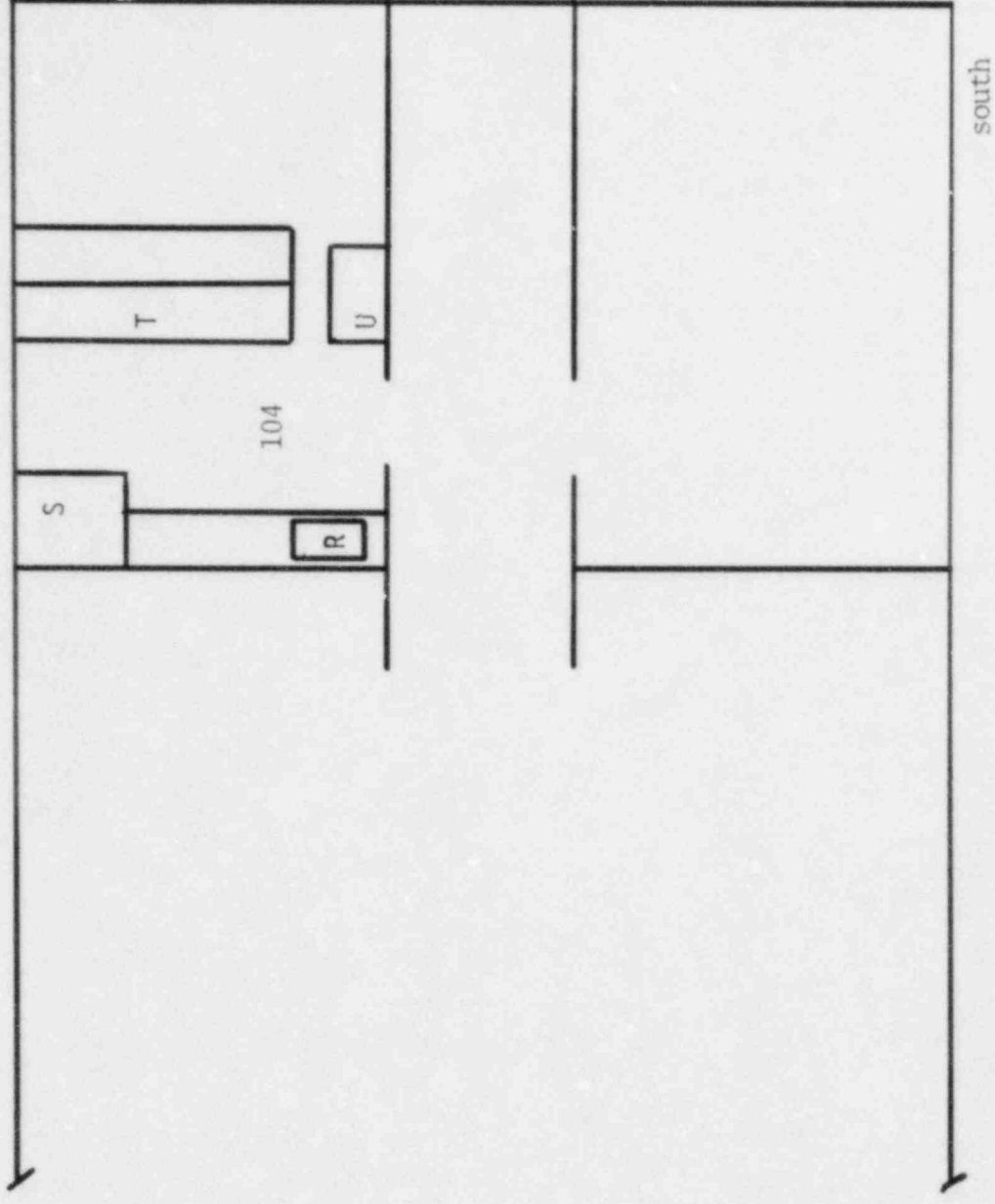
(Building 18 (second floor) continued)



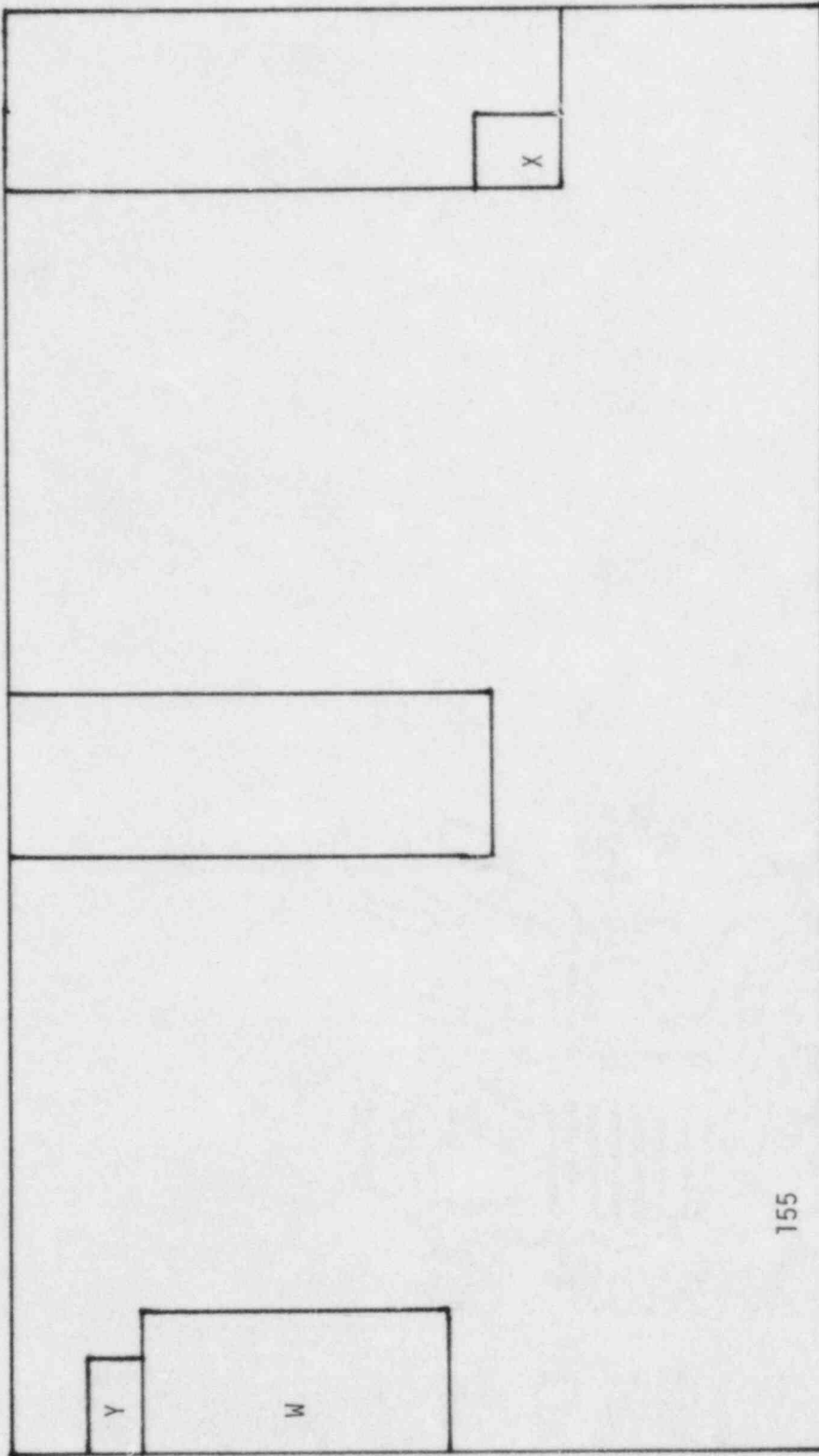
BUILDING 17 (first floor)



BUILDING 17 (south) first floor



BUILDING 17 (second floor)



BUILDING 2 (first floor)