NRC FORM 313
(7-86)
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires 5-31-87

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 FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

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

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW 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
631 PARK AVENUE
KING OF PRUSSIA, PA 19406

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
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
- [X] B. AMENDMENT TO LICENSE NUMBER 20-19999-01
- [X] C. RENEWAL OF LICENSE NUMBER 20-19999-01

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

Medical & Scientific Designs, Inc.
273 Weymouth Street
Rockland, MA 02370

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

273 Weymouth Street---Less than one millicurie
333 Weymouth Street---One to 500 millicuries

8801220138 870819
REG1 LIC30
20-19999-01 PDR

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Kenneth Hoffman

TELEPHONE NUMBER: 617-871-4442

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: 3
AMOUNT ENCLOSED: $ 460.00

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
Kenneth Hoffman	Kenneth Hoffman	Radiation Safety Officer	6-24-87

14. VOLUNTARY ECONOMIC DATA

a. ANNUAL RECEIPTS

- [ ] < $250K
- [ ] $250K – 500K
- [ ] $500K – 750K
- [ ] $750K – 1M
- [X] $1M – 3.5M
- [ ] $3.5M – 7M
- [ ] $7M – 10M
- [ ] > $10M

b. NUMBER OF EMPLOYEES *(Total for entire facility excluding outside contractors)*: 50

c. NUMBER OF BEDS: N/A

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

- [X] YES
- [ ] NO

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS	APPROVED BY
REN	4	3B	107465 29 JUN 1987 "OFFICIAL RECORD COPY" ML1B	D. Kimberly
AMOUNT RECEIVED	CHECK NUMBER			DATE
$460	15487			7/9/87

APPLICATION FOR LICENSE RENEWAL 20-19999-01

ITEM 5: RADIOACTIVE MATERIAL

Iodine I-125 is the only radioactive material to be possesed and processed. It is in the form of Sodium Iodine-125 solution in an aqueous base with a specific activity of approximately 17.4 mCi/ug iodine.

Medical & Scientific Designs wishes to amend our license from 200 millicuries maximum possession to 500 millicuries maximum possession. This increase is to facilitate increases in in-vitro diagnostic test business.

Other radioactive materials to be possessed are:

Iodine-129, 0.1 microcuries-Reference source
Cesium-137, 0.1 Microcuries-Reference source

APPLICATION FOR LICENSE RENEWAL 20-19999-01

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

Iodine-125 is to be used for the Research, Development, and Manufacture of in-vitro diagnostic reagents.

I-129 and Cs-137 is to be used as reference sources.

APPLICATION FOR LICENSE RENEWAL 20-19999-01

ITEM 7: Individuals responsible for Radiation Safety Program

Kenneth Hoffman	Radiation Safety Officer (Resume attached)
Mark Dixson	Radioactive Materials Production Manager (Resume attached)
John Gojcz	Quality Assurance Manager; Deputy Radiation Safety Officer (Resume attached)

APPLICATION FOR LICENSE RENEWAL 20-19999-01

ITEM 8: Individuals authorized to enter the radioactive processing areas are trained under the supervision of Mark Dixson who is the designer responsible for the safety of all individuals who frequent or work in the restricted areas.

Production Technologists are required to have college training in a sciene and spend a month observing experienced individuals before they are allowed to work with radioactive materials "hands on". After the month has elapsed they have viewed more than ten iodinations. They are then asked to perform four separate iodinations under the direct supervision of experienced individuals who report progress back to Mr. Dixson.

Mr. Dixson decides whether more training is necessary or whether the person undergoing on-the-job training can begin to work under less controlled conditions.

APPLICATION FOR LICENSE RENEWAL 20-19999-01

ITEM 9: Facilities and Equipment

The Hot Lab as described in the original license application has been relocated to the next building (333 Weymouth Street). A radioactive waste storage area is still maintained at 273 Weymouth Street as per the original license application.

The radioactive fume hood was moved and is marked "Old Hood" on our drawing of the Area (Appendix I attached) and on our enviromental monitoring records. A second radioactive hood was added and is labelled "New Hood" on the drawing and on the enviromental monitoring records. The new hood has the same charcoal filtering system as the old hood which was described in the original license application.

A radioactive waste storage area was added next to the hot lab.

Finished diluted bulk and bottled radioactive products are stored in the two walk in coolers shown on Appendix II (attached).

APPLICATION FOR LICENSE RENEWAL 20-19999-01

ITEM 10: Radiation Safety Program

-No longer use the Abbott 111-B

-Have added an additional Ludlum 177
(one for each building)

-Radiation detection instruments are calibrated twice yearly by:

Nuclear Instrument Co.
65 Grove Street
Rockland, MA 02370

-Attached please find:

SOP 26	Incoming radioactive material handling
SOP 27	Disposal of radioactive waste from labs
SOP 28	Hot Lab monitoring
SOP 29	Hot Lab air monitoring
SOP 30	General laboratory safety rules & regulations

APPLICATION FOR LICENSE RENEWAL 20-19999-01

ITEM 11: Waste Management

All liquid radioactive waste is absorbed with Speedi-Dri into plastic (capped) one gallon bottles. The bottles are placed in 55 gallon drums and the space between the bottles is filled with Speedi-Dri.

All other waste is compacted into 55 gallon drums with a compactor purchased from FX Massey Associates. The compactor is equipped with a filter designed to adsorb radioactive iodine.

The drums are shipped via:

US Ecology, Inc.
PO Box 7246
Louisville, KY 40207

or

HMM Associates
5 Bryant Street
Woburn, MA 01801

Shipped to:

Hanford Reservation
Richland, WA 99352

Permit No: 1751 (see attached)

RESUME
JOHN P. GOJCZ

EDUCATION: Rhode Island College, 1973,

B.A. Biology, Minor: Chemistry

EXPERIENCE: Medical & Scientific Designs, Inc., Rockland, MA

March 1987 Present — QA/RA--Prouct Support Manager

-Responsible for the quality and reliability of all Reagent products.

-Manage the QC group.

-Assure compliance with all local, state, and Federal regulations.

-Manage plant safety and Right-To-Know programs.

-Supervise the activities surrounding the radiation disposal and monitoring program as directed by the Radiation Safety Officer.

July 1986-
March 1987 — Medical & Scientific Designs, Inc., Rockland, MA

Reagent Production Manager

-Managed the production of thirteen different RIA products (all ultilized I-125).

July 1984-
July 1986 — Olin-Hunt Specialty Chemical Co., East Providence, RI

QA/Safety Manager

-Managed Quality Assurance program in a large volume microelectronics chemical company.

-Responsible for plant safety, Right-To-Know programs and emergency evacuation procedures.

-Responsible for calibration programs, validation of clean rooms and complainance with Federal and State regulations regarding handling of flammable and toxic materials.

July 1983-
July 1984

Copely Pharmaceutical Co., Boston, MA

QC Manager

-Managed a QC Department of a genenic pharmaceutical Co.

-Responsible for compliance to FSA regulations regarding drug manufacture and GMP's.

December 1981-
April 1983

General Diagnostics, Division of Warner Lambert ,
Morris Plains, NJ

Production Supervisor

-Supervised the manufacture of in-vitro diagnostic reagents from raw material to finished vials.

February 1973-
December 1981

Pfizer Diagnostics, Groton, CT

Production Supervisor

-Supervised the production of in-vitro diagnostic reagents from raw materials to finished vials.

CURRICULUM VITAE
MARK DIXSON

EDUCATION:	University of Massachusetts, Amherst, MA
May 1980	B.S. Microbiology, Minor: Chemistry
June 1981	Radiation Safety Seminar, Clinical Assays, Cambridge, MA
EXPERIENCE	Medical & Scientific Design, Inc., Rockland, MA
May 1987-Present	Reagent Production Manager Responsible for planning, coordinating and controlling the manufacture of Reagent Products in accordance with schedule, specifications, and GMP's; maintaining manufacturing records in accordance with government regulations; responsible for employee safety in restricted and non-restricted areas (HOT LAB); maintain a log of all incoming radioactive materials; sign off on Health physic reports and submit to Radiation Safety Officer. Worked with I-125 only.
January 1984- April 1987	Reagent Production Supervisor Responsible for manufacturing and coordinating the controlled production of a twelve product in-vitro immunodiagnostic kit line within GMP guidelines and FDA regulations; ensure the proper storage and handling of radioactive materials; trained production technicians with regard to safety, handling, and disposal of radioactive materials (I-125.
November 1982- January 1984	Technical Production Chemist Duties included the establishment of a reagent manufacturing department; radioactive tracer labeling, storage, and disposal, buffer preparation, bottling, and labeling and kit assembly; antibody coating of solid phase receptacles; assisted in the training of technical and hourly personnel.
July 1980- July 1982	Clinical Assays, Cambridge, MA As Senior Iodination Chemist, responsibilities included; radioactive tracer labeling, bottling; training and supervision of new technicians and tracer support work; radioactive waste disposal and decontamination of restricted areas. Worked with I-125, CO-57, and 3H in this position.

Medical & Scientific Designs, Inc.

CURRICULUM VITAE

KENNETH L. HOFFMAN

Educational Background:

B. S. General Science, University of Iowa, 1975

M. S. Radiobiology, Radiation Research Laboratory University of Iowa, 1977. Course work and research in biological effects of radiation, radiation health physics, and nuclear physics.

Industrial Experience:

1983 to present-Director of Reagent Development and Radiation Safety Supervisor, Medical & Scientific Designs, Rockland, MA. Responsible for development, validation, and licensing of automated radioimmunoassay methodologies for in-vitro human diagnostic use. Designed and implemented the radiation safety program. Currently serving as Radiation Protection Officer. Wrote standard operating procedures for radiation safety, trained personnel and designed Radiation laboratories.

1977 to 1982-Manager of Technical Product Support-Micromedic Systems-Horsham, PA. Responsible for technical maintenance of 18 RIA kit products. Performed process scale-up and transfer of technologies such as radioiodination chemistry to manufacturing. Served as radiation safety officer responsible for design and implementation of programs to comply with NRC regulations.

273 Weymouth Street • Rockland, Massachusetts 02370 • (617) 871-4442

SOP# 26: Incoming Radioactive Material Handling

Revision # 02
Effective Date: 062387

Albert G. Lefrance — 2/4/86
Written by — Date

Purpose: The purpose of this SOP is to define the roles of the individuals receiving radioactive material and the required documentation and responsibilities to account and document the receipt and handling of radioactive material.

Scope: This procedure covers the receipt of all radioactive material shipments received by Medical & Scientific Designs, Inc., including materials received for re-distribution without any repackaging. Material shipments covered by this procedure are classified as follows:

a. Exempt quantities:
b. Non-exempt quantities.

Procedure:

1. On delivery of any package containing radioactive material the receiver or his designate will determine to whom to route the package. A single copy of the packing list will be routed to the Radiation Safety Officer.

2. Exempt quantities of 125I (e.g., Immunoassay kits or packaged containing < 10 uCi of 125I) will be routed directly to the individual ordering the material.

3. Non-exempt quantities of radioactive material will be routed directly to the radiation fume hood.

4. All non-exempt quantity packages will be tested will a Ludlum model 177 survey meter with a Geiger-Muller probe to determine if surface contamination exists. A reading of > 200 mR/hr at the surface signifies contamination. If a contaminated package is received, notify the radiation Safety Officer immediately. Do not open the package.

Approval:

David Ward Forbes — 18 Feb 86
CEO — Date

Ben Hoffman — 6/22/87
Radiation Safety Officer — Date

5. Once the package is found to be contamination-free, the inner contents of each package should be checked for any leaks or irregularities.
6. For Non-exempt quantities of Sodium Iodide, the following swipe tests will also need to be done:

    a. Oustde of Package,
    b. Packaging material,
    c. Inner packages, if any, and
    e. Outside of lead pigs containing solutions.

7. All uncontaminated material can be disposed into ordinary trash after defacing of radioactive labels.

8. An incoming Radioactive Material Inspection form (Attachment A) must be completed and forewarded to the RSO, along with a copy of the Packing List.

SOP# 27 :Disposal of Radioactive Waste from Laboratory Areas

Revision # 02
Effective Date: 062387

Written by _____ Date _____

Purpose: The purpose of this SOP is to define the procedures to be followed in removing radioactive waste from laboratory areas.

Scope: This procedure applies to all departments and areas handling radioactive materials in any capacity outside of the restricted radiation laboratory at Medical & Scientific Designs, Inc.

Procedure:

1. Each area will have designated metal waste containers clearly marked for Radioactive Waste. These containers are restricted to Solid waste only.

2. The contents of the radioactive waste containers will be transferred to Radioactive Disposal barrels designated for radioactive waste located in caged areas of each building. A designated individual or individuals will assure that the laboratory trash containers are maintained on a regular basis.

3. Each area will also have a designated liquid waste collection station to siphon used liquids from reaction trays and bottles. The liquids will be periodically adsorbed into absorbent, tied up in bags, and transferred into a Radioactive Disposal barrel marke 'ABSORBED LIQUIDS'. A designated individual or individuals will assure that the liquid waste is removed on a regular basis.

4. Contaminated reaction trays are to have their liquid siphoned off and are to be stored in boxes. When boxes are filled they are to be moved to the caged area at the 273 Weymouth Street facility. Each box must be marked with a radioactive symbol, and have the date the box is stored marked on the box.

Approval:

David Wood Stanley _____ 18 Feb 88
CEO Date

_____ 6/22/87
Radiation Safety Officer Date

5. The disposal of trays, Absorbed liquids, and solid radioactive waste from the facility will be the responsibility of the Radiation Safety Officer or his designate.

SOP# 28 : Hot Lab Monitoring

Revision # 02
Effective Date: 062387

Written by — Date 2/5/88

Purpose: The purpose of this procedure is to define the frequency and responsibilities for surveying the Hot Lab aresa for contamination.

Scope: This procedure applies to the Medical & Scientific Designs, Inc. Hot Lab facility at the 333 Weymouth Street site, and to all personnel using that facility for production and/or development purposes.

Procedure:

1. The Radiation Safety Officer or a designate will survey the facility for contamination on the morning of the first workday of each wee..

2. The survey will be conducted using a survey meter for general contamination, and using swipe testing of areas listed in Attachment A.

3. Any areas showing significant surface contamination will be cleaned prior to using the facility.

4. A Hot lab Survey form will be completed for each survey and filed by the RSO. If corrective action is required, a report on the action will be made and attached to the record for review by NRC and/or state and local inspections.

Approval:

CEO — Date

Radiation Safety Officer — Date 6/22/87

Hot Lab Survey

A. Swipe Test Map and Results

	Location	CPM recorded
1.	Inside hood-floor	----------
2.	Inside hood-wall	----------
3.	Inside hood-door	----------
4.	Floor, hood front	----------
5.	Iodination Bench	----------
6.	Floor, iodination bench	----------
7.	Refrigerator handle	----------
8.	Floor, Refrigerator	----------
9.	Bottling Bench	----------
10.	Floor, Bottling Bench	----------
11.	Sink	----------
12	Floor, near sink	----------
13.	Door handle, inside lab	----------
14.	Floor, near lab exit	----------

B. Survey Meter, Results

1.	Waste Area Cage	----------
2.	General Lab	----------
3.	Sink, glassware bench	----------
4.	Pipets and Lab Equipment	----------

C. Areas of Contamination Detected

D. Results of Cleanup effort

Completed by:

---------- ----------
Date

SOP# 29 : Hot Lab Air Monitoring

Revision # 02
Effective Date: 062387

Written by _____ Date 2/21/86

Purpose: The purpose of this procedure is to define the frequency and responsibilities for surveying the Hot Lab Air monitoring system for contamination.

Scope: This procedure applies to the Medical & Scientific Designs, Inc. Hot Lab facility at the 333 Weymouth Street site, and to all personnel using that facility for production and/or development purposes.

Procedure:

1. The Air Sampling System will be monitored by the Radiation Safety Officer or a designate each morning of the first workday of each week.

2. The filters in the air sampling system will be changed weekly. The contamination in the filters will be determined by counting the filters in a calibrated radiation counter.

3. A Hot Lab Air Survey form will be completed for each completed survey and filed by the RSO. If corrective action is required, a report on the action will be made and attached to the record for review by NRC and/or state and local inspections.

Approval:

CEO _____ Date _____

_____ 6/22/87
Radiation Safety Officer Date

Hot Lab Air Monitoring Survey

Start Date:_____ Start Time:_____
End Date:_____ End Time:_____

Total Survey Time (minutes):_____

A. Hood Exhaust Limit: < 8.0×10^{-11} uCi/mL

Total cpm (hood):_____
Background:_____
Net cpm:_____

$$\frac{\text{\_\_\_\_\_ (net cpm)}}{\text{\_\_\_\_\_ (E)} \times 2220000 \times 18700 \times \text{\_\_\_\_\_ (minutes)}} = \text{\_\_\_\_\_ uCi/mL}$$

B. Hot Lab Air Limit: < 5.0×10^{-10} uCi/mL

Total cpm (lab):_____
Background:_____
Net cpm:_____

$$\frac{\text{\_\_\_\_\_ (net cpm)}}{\text{\_\_\_\_\_ (E)} \times 2220000 \times 18700 \times \text{\_\_\_\_\_ (minutes)}} = \text{\_\_\_\_\_ uCi/mL}$$

C. Unrestricted Air Limit: < 8.0×10^{-11} uCi/mL

Total cpm (air):_____
Background:_____
Net cpm:_____

$$\frac{\text{\_\_\_\_\_ (net cpm)}}{\text{\_\_\_\_\_ (E)} \times 2220000 \times 18700 \times \text{\_\_\_\_\_ (minutes)}} = \text{\_\_\_\_\_ uCi/mL}$$

Survey Completed by:

_____ _____ _____
Date

SOP# 30 : General Laboratory Safety Rules and Regulations

Revision # 02
Effective Date: 062387

Written by _____ Date 4/1/87

Purpose: The purpose of this procedure is to provide a listing of general rules, regulations, and procedures for working with radioactive materials in laboratory areas.

Scope: This procedure applies to the Medical & Scientific Designs, Inc. facilities at the 273 and 333 Weymouth Street sites, and to all personnel using those facilities.

Procedure:

1. The following general laboratory practices will be enforced for all personnel working with or handling radioactive materials:

   a. There will be no eating, drinking, or smoking in any area where radioactive materials are handled;

   b. There will be no mouth pipetting of any solutions in any laboratory area;

   c. Gloves and labcoats must be worn by laboratory personnel when handling radioactive materials. Only disposable labcoats will be used in the hot lab areas;

   d. All radioactive materials must be labelled with a clearly distinctive tag, and must be stored properly. Each laboratory area must have a designated, clearly marked area for storing radioactive materials;

   e. All spills of radioactive materials must be cleaned up and properly decontaminated. Any floor spills of > 10 mL of liquid or 10 uCi of radioactivity must be reported to the Radiation Safety Officer immediately.

2. Thyroid scans will be done for hot lab personnel every other week. Individuals working with radioactive materials in

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Approval:

CEO David Wood Sorka _____ Date _____

_____ 4/2/87

Radiation Safety Officer Date

laboratories will be checked at the discretion of the RSO. Any individual wishing a thyroid monitor should consult the RSO.

3. Laboratory personnel will be issued film badges to monitor exposure to radiation. These badges are to be worn in the laboratories at all times.

4. Hot Lab workers will be issued ring badges to monitor hand exposure to radiation. These ring badges must be worn when working in the hot lab.

5. All personnel leaving the restricted hot lab area will be required to complete a scan of their person with a Ludlum Model 177 rate meter equipped with a scintillation probe prior to exitting the restricted hot lab area. The survey will include hands, face, feet, body, and hair. Any meter reading >200 cpm must be reported to the RSO immediately.

6. Any individual performing an iodination procedure of > 0.10 mCi of 125I will be required to perform a thyroid scan within 24 hours. If more than than 200 cpm is found, the RSO must be notified.

7. Each laboratory area using radioactive materials will have a survey performed by a designated individual. This survey will be done weekly, and will be done using a survey meter to detect gross radioactive contamination. A survey form (attachment 1) must be completed each time, and filed with the RSO.

WASHINGTON STATE DEPARTMENT OF ECOLOGY
Low-Level Radioactive Waste Program

PERMIT NO. 1751

EXPIRES: 03/31/88

PAGE 2

SITE USE PERMIT

for Low-Level Radioactive Waste Disposal

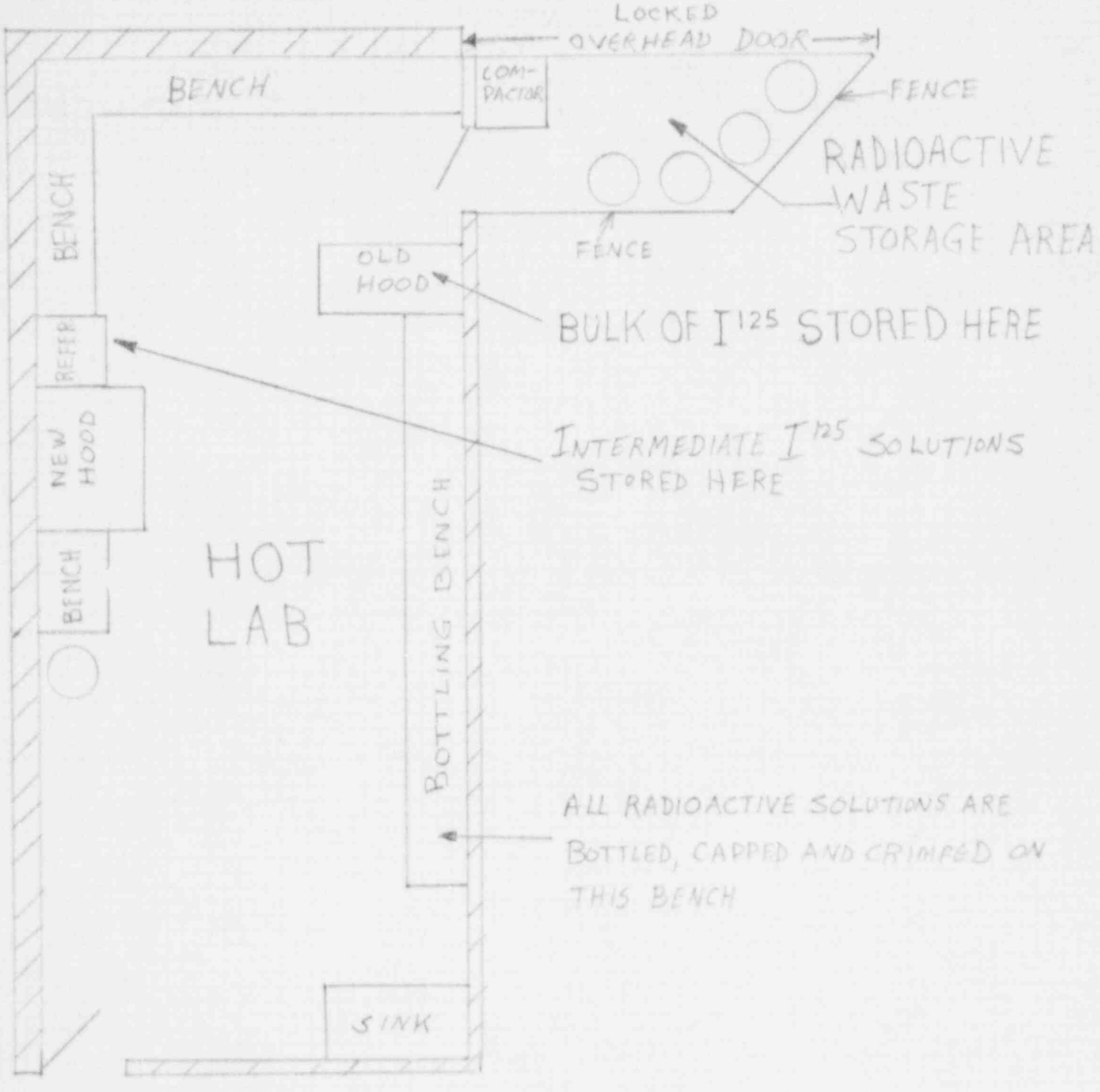
Registrant MEDICAL & SCIENTIFIC DESIGNS
(COPY OF ORIGINAL)

The person or firm to whom this certificate is issued must comply with all applicable federal and state regulations related to the safe management of low-level radioactive waste.

ECY 010-2-78

Permit Does Not Imply Approval

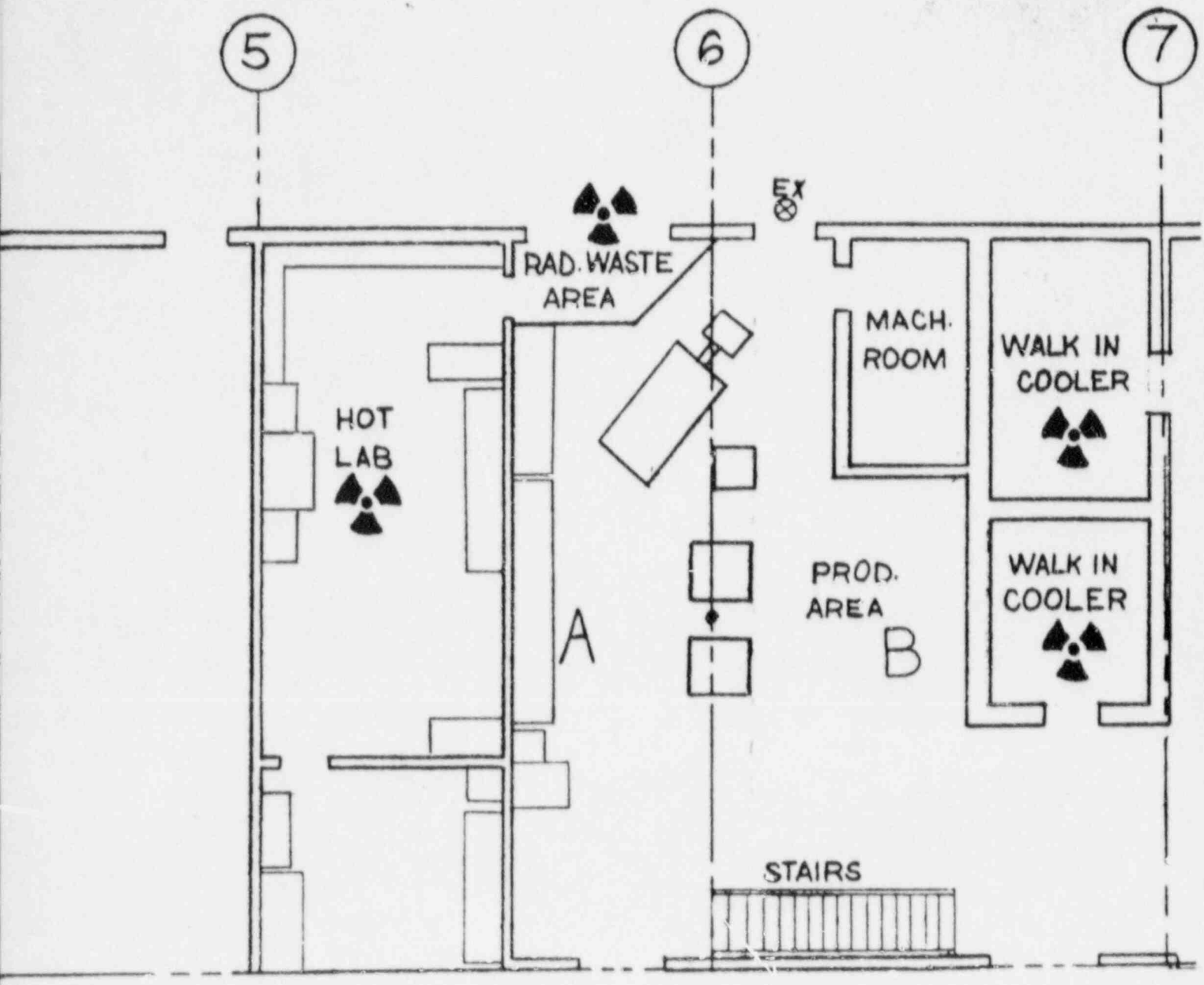
FLOOR PLAN FOR HOT LAB AND RADIOACTIVE WASTE STORAGE AREA LOCATED AT 333 WEYMOUTH ST.



APPENDIX I

1/4" = 1'

FLOOR PLAN FOR STORAGE AREAS OF FINISHED BULK AND FINAL PRODUCT OF RADIOACTIVE PRODUCTS.



CENT
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APPENDIX II

1/8" = 1'