NRC FORM 313
(10-87)
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

030-19983

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
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
NUCLEAR 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 _____
- [X] C. RENEWAL OF LICENSE NUMBER 37-15290-02

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

Frank M. Stearns, Ph.D.
Laboratory Director & Radiation Safety Officer
Damon Clinical Laboratories
3190 Tremont Avenue
Trevose, PA 19047

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

Damon Clinical Laboratories
3190 Tremont Avenue
Trevose, PA 19047

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Frank M. Stearns, Ph.D.

TELEPHONE NUMBER: (215) 355-8100 x350

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 170.31(3P) — AMOUNT ENCLOSED $ 120.00

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

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS	APPROVED BY
REN	Jul. 3rd	3P		A. Kemblay
AMOUNT RECEIVED	CHECK NUMBER			DATE
$120	47622			7/6/88

"OFFICIAL RECORD COPY" MLTB

108121
6-23-88

Item 5

Radioactive Material

Element and Mass Number	Chemical and/or Physical Form	Maximum Amount Possessed at Any One Time
1. Cobalt 57	Prepackaged kits	10 millicuries
2. Iodine 125	Prepackaged kits	20 millicuries
3. Hydrogen 3	Prepackaged kits	5 millicuries

Item 6

Use of Licensed Material

1.	Cobalt 57	In vitro clinical testing of patient specimens
2.	Iodine 125	In vitro clinical testing of patient specimens
3.	Hydrogen 3	In vitro clinical testing of patient specimens

Item 7

Individual Responsible for Radiation Safety Program

Frank M. Stearns, Ph.D.
Laboratory Director and
Radiation Safety Officer

(See Attachment I (CV & Diploma of Radioisotope Training)

ATTACHMENT I

CURRICULUM VITAE

Frank M. Stearns, Ph.D.

ADDRESS

141 Carol Lane, Richboro, PA 18954

DATE OF BIRTH

July 12, 1947

PROFESSIONAL EDUCATION

B.S. (Biology) Philadelphia College of Pharmacy & Science	1969
M.S. (Biochemistry) Medical College of Pennsylvania	1972
Ph.D. (Biochemistry) Hahnemann Medical College	1978
MBA (Finance) La Salle University	Anticipated 1989

APPOINTMENTS

Laboratory Director and Manager of Operations Damon Clinical Laboratories Trevose, PA	1980 to Present
Technical Director Center for Laboratory Medicine, Inc. Trevose, PA	March 1978 to 1980
Research Biochemist Hahnemann Medical College	December 1977 to March 1978

PROFESSIONAL SOCIETIES

American Association for Clinical Chemistry
Canadian Society of Clinical Chemists
Clinical Ligand Assay Society
Association of Clinical Scientists
American Society of Clinical Pathology

HONORS

Student Chapter President, American Institute of Biological Sciences

American Association for Clinical Chemistry Board Approved Clinical Chemistry Training Grant Awardee (5T01-GM-2198-03)

Nominated to Who's Who Among Students in American Universities and Colleges — 1976

	Chairman, Philadelphia Section American Association for Clinical Chemistry	
	Member Technical Advisory Panel for Clinical Chemistry, Bureau of Laboratories, Commonwealth of Pennsylvania	
RELATED ACTIVITIES	Instructor, General and Organic Chemistry Hahnemann Medical College Extension Program Philadelphia, PA	1977
	Lecturer, Clinical Chemistry Manor Junior College Jenkintown, PA	1978
	Symposium Committee, Philadelphia Section American Association for Clinical Chemistry "Laboratory Approach to Immunologic Disorders"	1979
	Breakfast Roundtable Faculty, Pitfalls in Measuring HDL-Cholesterol 31st National Meeting American Association for Clinical Chemistry	1979
	Chairman, Biochemical Hematology Discussion Session 31st National Meeting American Association for Clinical Chemistry	1979
	Program Chairman, Philadelphia Chapter American Association for Clinical Chemistry	1980
	Executive Committee, Clinical Radioassay Society Delaware Valley Chapter	1981
	Symposium Committee, Philadelphia Section AACC, and Delaware Valley Clinical Ligand Assay Society Joint Symposium "Interpretive Approaches to Clinical Toxicology and Endocrinology"	1981
	Advisor to the Subcommittee on Labeling of the Area Committee on Laboratory Administration of the National Committee for Clinical Laboratory Standards (NCCLS)	1981
	Member of the Subcommittee on Reagent Water of the Area Committee for Clinical Chemistry for the National Committee for Clinical Laboratory Standards (NCCLS)	1982

Co-Chairman, Selected Topics 1985
1985 Host Committee
37th National Meeting
American Association for Clinical Chemistry

Chairman, Philadelphia Section 1986
American Association for Clinical Chemistry

ADDITIONAL

1. CDC Qualified Director
2. Commonwealth of Pennsylvania Qualified Director
3. New York State Qualified Director (B689)
4. New York City Qualified Director (Permit #56-031991)
5. State of Illinois Laboratory Director
6. State of Connecticut Clinical Laboratory Director
7. Member Damon National General Quality Assurance Committee
8. NRC Certificate for Radioisotope Methodology

PUBLICATIONS

1. R. Domanski, D. Rifenberick, Frank Stearns, R. Scorpio, and S. Narrod
Ethanol-Induced Fatty Liver in Rats: Effects of Pyrazole and Glucose.
Proc. Soc. Exp. Biol. & Med. 136, 18 (1971)

2. Frank M. Stearns and Stuart A. Narrod
The Redox State of Nicotinamide Adenine Dinucleotide in Bacteria. Abst. #199, ACS National Meeting August 1972

3. Frank M. Stearns
Pyridine Nucleotide-Linked Lactate Dehydrogenases of Tetrahymena: Evidence for D- and L-Enzymes in the Mitochondria. Abst. Sixth Annual Graduate Study Day Hahnemann Medical College, November 1975

4. Herbert J. Eichel and Frank M. Stearns
Cyanide-Insensitive, Mitochondrial Respiratory Pathway in Intact Tetrahymena and its Specific Inhibition of Hydroxamic Acids. Federation Proceedings 36, 904 (1977)

5. Frank M. Stearns, Richard A. DeMaio and Herbert J. Eichel
Occurrence of Cyanide-Resistant Respiration and of Increased Concentration of Cytochromes in Tetrahymena Cells Grown with Various Metals. Federation Proceedings 37, 1516 (1978)

6. Frank M. Stearns
A Cyanide-Insensitive, Mitochondrial Respiratory Pathway in Intact Tetrahymena: Inhibition by Hydroxamic Acids, Induction by Iron, and Other Properties.
Thesis, Hahnemann Medical College, 1978

7. Frank M. Stearns
The Importance of Serum Ionized Calcium. Laboratory Management 16, 11 (October 1978)

8. Frank M. Stearns
Letter to the Editor. Laboratory Management 16, 7 (November 1978)

9. Frank M. Stearns, Randi Rudolf, Margie Newton, and E. Philip Halpern
Performance Evaluation and Effect of Anticoagulants on Glycosylated Hemoglobin (G-Hb) Measurements. Clin. Chem. 25, 1075 (1979) A

10. Frank M. Stearns
Assessment of Abbott's Triobead Kit for T3 Uptake. Ligand Quarterly 4:1, 47 (1981)

11. Frank M. Stearns
Radioimmunoassay Kit for Plasma Aldosterone Evaluated. Clin. Chem. 27:8, 1471 (1981)

12. Frank M. Stearns
Method Evaluator, Theophylline Determination by High Performance Liquid Chromatography. Clin. Chem. 27:11, 1931-1933 (1981)

13. Frank M. Stearns
Method Evaluator, Fluorometric Determination of Quinidine. Clin. Chem. 27:11, 1929-1930 (1981)

14. Frank M. Stearns
Determination of Procainamide and N-Acetylprocainamide by High Performance Liquid Chromatography. Clin. Chem. 27:12, 2064-2067 (1981)

15. Frank M. Stearns and William A. Colvin
Inexpensive Bicarbonate Diluent for Use with Commercial Quality-Control Sera. Clin. Chem. 28:5, 1242 (1982)

16. D.S. Kronfeld, S. Donoghue, R.L. Copp, F.M. Stearns, R.H. Engel
Nutritional Status of Dairy Cows Indicated by Analysis of Blood. J. Dairy Sci. 65, 1925-1933 (1982)

17. Frank M. Stearns
Analytical and Clinical Evaluation of a Radioimmunoassay Kit for Serum Calcitonin. J. Clin. Immunoassay 6:1, 90 (1983)

18. Frank M. Stearns and Robert Dalrymple
Method Evaluator, Antiepileptic Agents - Primidone, Phenobarbital and Carbamazepine by Reverse - Phase Liquid Chromatography. Clin. Chem. 30:1, 105-108 (1984)

19. Robert W. Dalrymple and Frank M. Stearns
Screening Procedures. III. Basic Drugs in Urine. Selected Methods in Clinical Chemistry Vol. 11, 26-29 (1986)

20. Frank M. Stearns and Robert W. Dalrymple
Acetaminophen by Colorimetry. Selected Methods in Clinical Chemistry Vol. 11, 37-39 (1986)

21. Frank M. Stearns, Contributing Author.
National Committee for Clinical Laboratory Standards
Physician's Office Laboratory Guidelines. NCCLS Publication Pol 1-P, Vol. 8, No. 1 (1988) Villanova, PA.

22. Paul J. Green, Joseph J. Fallon, and Frank M. Stearns
Acute Pancreatitis: Biochemical Testing Including Trypsin-Like Immunoreactivity. Submitted for publication.

The Hahnemann Medical College and Hospital

OF PHILADELPHIA

This Certifies that

Frank M. Stearns, M.S.

has satisfactorily completed the Graduate Course of instruction in

Isotope Methodology

Dated at Philadelphia March 1, 1973

Dean of the College

Chairman, Dept. of Biological Chemistry

Item 8

Training for individuals is provided in accordance with 10CFR 19.12.

ITEM 9

Facilities and Equipment

A. Facilities

A diagram of the laboratory where use of radioactive material is permitted is attached (Attachment II).

B. Equipment

1. Gamma Counting

2 each - Isodata Model 20/20 Gamma Counters. S/N 8411459 and S/N 8707700.

Calibration is performed using ISO-Calibrator Reference Sources WCA-520 purchased from ICN, Carson, CA 90746

Service Contracts are maintained with Philadelphia Neucleonics, Inc. Cinnaminson, NJ.

2. Beta Counting

1 each - Beckman LS100C. S/N 1000536

Calibrators: ^{3}H - 0.050 uCi 112,000 dpm
^{14}C - 0.012 uCi 27,100 dpm

The Beckman sample contains ^{3}H and ^{14}C of 112,000 dpm and 27,100 dpm, respectively.

The calibration vials are counted in the Beta Spectrophotometer and the counts/min results are divided by dpm to give the percent efficiency of the scaler.

3. Radiological Monitoring

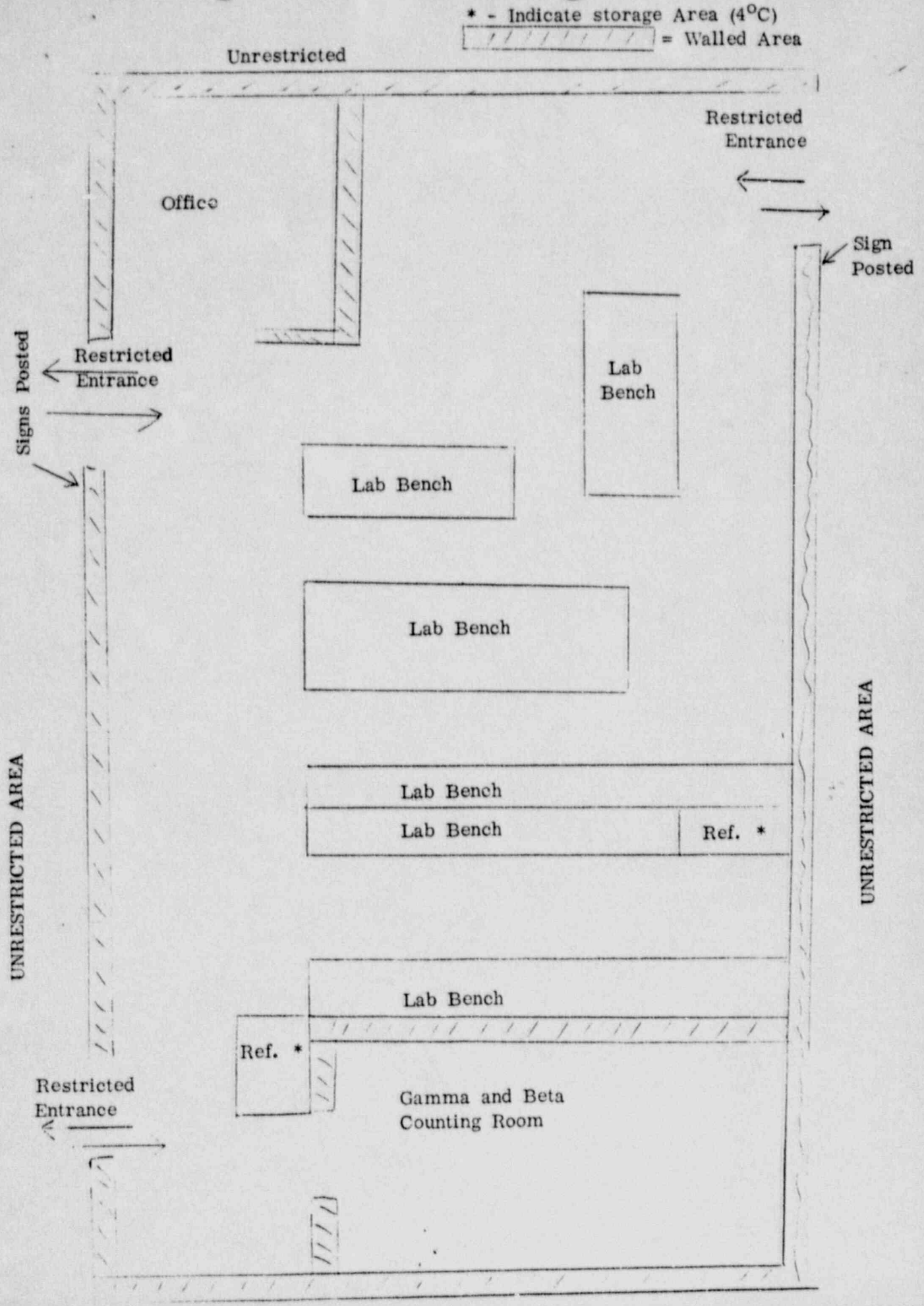
a. Eberling Model RM14
Radiation Monitor S/N 1009
with a Ludlum Model 44-3 thin window detector

Semi-Annual service is provided by: RMC Calibration Services
Philadelphia, PA 19137

(See latest calibration report [Attachment III]).

MODIFIED DIAGRAM

ATTACHMENT II



RMC

CERTIFICATE OF CALIBRATION

Radiation Management Consultants certifies that the instrument listed below was calibrated and inspected before shipment and has met the manufacturer's published specifications. RMC certifies that our calibration measurements are traceable to the National Bureau of Standards. Applicable corrections are made to correct to 22° C and 760 mmHg.

RMC SERVICE NO. 13232

INSTRUMENT IDENTIFICATION EBERLINE (Manufacturer) PM-1A/HP-230A (Model) 1009/P1009 (Serial Number)

CALIBRATION SOURCE ID. MP-1 Pulser SN 533, 0.09 μCi ^{129}I = S.N. RMC #1420
1.0 μCi ^{133}Ba S.N. RR365

RANGE	CALIBRATION POINT	INSTRUMENT READING Before Adjustment	After Calibration
X 1	100 CPM	90 CPM	100 CPM
	400	390	400
X 10	1000	900	1000
	4000	3800	4000
X 100	10000	9000	10000
	40000	38500	40000
HP-230A	0.09 μCi ^{129}I @ 1 cm	80 CPM	80 CPM
PROBE	1.0 μCi ^{133}Ba @ 1 cm	1100	1100
	10 μCi ^{109}Cd @ 1 cm	900	900
44-3	0.09 μCi ^{129}I @ 1 INCH	→	4500 CPM
PROBE	1.0 μCi ^{133}Ba @ 2 INCHES	→	30000
	10 μCi ^{109}Cd @ 2 INCHES	→	37000
CHECK SOURCE	0.9 μCi ^{226}Ra @ 1 INCH	→	14000

COMMENTS

^{125}I RESPONSE: 28% EFF @ 1 INCH, 56125 CPM/μCi 44-3 PROBE
^{133}Ba RESPONSE: 3.8 EFF @ 2 INCH, 30,000 CPM/μCi 44-3 PROBE
^{109}Cd RESPONSE: 3.3 EFF @ 2 INCH 3700 CPM/μCi 44-3 PROBE

Calibration Performed by Harold W. Markus Date Feb. 16, 1988

I certify that the above information is correct.

Authorized Agent C. E. McBee

Title Health Physicist Date 2-16-88

(RMC is not responsible for damage incurred during shipment or use of this instrument)

COPY ONLY

YOUR COPY FOR YOUR RECORDS

RMC
5301 TACONY STREET, BOX D5
PHILADELPHIA, PA 19137

INSTRUMENT MAINTENANCE AND CALIBRATION

SHEET 1 of ___

13262

DATE: 2-17 BY

Instrument ID
MFGR: EBERLINE
Inst. Model: RM-14 SN: 1009
Probe Model: HP-230A SN: 1009

Owner
NAME:
ADDRESS:
Person to Contact: Phone: 632-4100

BILLING ADDRESS:
DAMON CLINICAL LABS - ACCOUNTS PAYABLE
STREET: 3190 TREMONT AVE
CITY: TREVOSE STATE: PA ZIP: 19047

INSTRUMENT SERVICE - REPAIR

Description of Defect or Symptom	Part #	Description	QTY	Unit Price	Total
DEAD RECHARGABLE BATTERY HP-230A NOT SENSITIVE TO ISOTOPES					
AC-INDICATOR LAMP SHORTING ON & OFF	LPA6 8(5)	AC-NEON INDICATOR	1	5.00	5.00
	YP10S 34089(8)	6VOLT, 1 AMP HR RECHARGABLE BAT. KIT	1	65.00	65.00
	M44-3	LOW ENERGY GAMMA SCINTILLATOR	1	377.00	377.00

CORRECTIVE ACTION
Date: Work:

Calibrated to: ^{109}I, ^{133}Ba FOR LOW ENERGY GAMMA RESPONSE
EXTRA CALIBRATION SOURCE CHECK AT: $35.00
1-29 CLIENT AUTH PURCHASE OF LOW ENERGY GAMMA DETECTOR
1-29 REPLACED BATTERY - UPDATED POWER SUPPLY & BATTERY CHARGING SYST./2-1 REPLACED AC-INDICATOR, CLEANED FUNCTION SWITCH
2-15 REC'D PROBE FROM MFGR (44-3) GAMMA SCINTILLATOR

TOTAL PARTS 447.00

LABOR EXPENSES Description	Hours	Rate	min for parts + labor	Total
Repair - Reg	2.5	50.00/HR		125.00
Repair - OT				
Travel				
Expenses				
TOTAL LABOR/EXPENSES				125.00

BILLING	
RMC No.	13262
PO No.	B3348
Job No.	2000
Cust. No.	
Invoice No.	
Parts	447.00
Labor	125.00
Calibrat. Fee	95.00
Shipping	
Other	35.00
Invoice Total	702.00

Item 10

Radiation Safety Program

Section
1. Introduction
2. Warning signs and labels
3. Receipt of radionuclides
4. Inventory, storage and security
5. Disposal procedures
6. Handling of radionuclides
7. Spills
8. Environmental surveys
9. Personnel - protective measures and monitoring
10. Personnel - notification, restrictions

1. Introduction:

The exposure levels of radiation at Damon Clinical Laboratories (DCL) are well below the limits established by state or federal regulation for which specific safety precautions are required. Yearly exposures at DCL are routinely less than 0.1 rem and range from 0 to 0.4 rems/year. The Nuclear Regulatory Commission established limit for whole body occupational exposure is 5.0 rems/year [see 10 CFR 20.101(b)(2)].

2. Warning signs and labels:

a. Warning signs indicating the presence of radioactive materials are placed in the radionuclide storage area.

b. Appropriate labels are placed on all containers of radionuclide preparations made up in the laboratory.

3. Receipt and Notification:

Many routine shipments of radionuclides are exempt from regulation. The following procedures are recommended when applicable.

a. Radionuclides are delivered directly to the laboratory or the laboratory notified on arrival to enable immediate pickup.

b. The technologist on duty will

1) Receive the package and sign courier's receipt.
2) Inspect package for damage.
3) Monitor if necessary.
4) Log shipment into inventory log.
5) Place shipment in the refrigerator

c. Inspection of shipment

1) Note condition of package

a) If undamaged, note condition in log and place in storage.

b) If the package is crushed, torn, punctured or wet (suggesting leakage), it must be checked for radiation.

2) Monitoring for leakage

a) Required for all shipments with evidence of damage or leakage.

b) Tolerance limits

(1) Surface activity: should not exceed 200 millirads/hr.
(2) Activity at 3 feet: should not exceed 10 millirads/hr.

d. Notification procedures: if tolerance limits are exceeded:

1) Notify the Supervisor, Radiation Safety Officer, or Laboratory Director.

2) Notify the courier and supplier.

3) Notify the NRC regional office: Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

4) Complete and file an incident report documenting the date, time of receipt, condition of package, surface activity, procedures followed and person notified.

5) Give the incident report to the Radiation Safety Officer, Laboratory Director or Supervisor. Copies should go to:

a) Administration
b) Safety Officer
c) Laboratory Director
d) Laboratory file

e. Procedure for handling damaged packages

1) Place packages in a plastic bag to avoid further leakage.
2. Place bagged package in the storage area.

4. Inventory Log, Storage and Security

a. Record all shipments into the inventory log

b. Note the following:

1) Date and time received
2) Supplier/courier
3) Radionuclide
4) Condition of package
5) Monitor results (if indicated)
6) Notifications (if applicable)
7) Actions taken (if applicable)

c. Storage: Place all shipments in the storage refrigerator or behind the lead brick storage area if the quantity of I125 is greater than 200 microcuries.

5. Disposal Procedures:

a. Patient wastes: Secretions, urine, blood samples, and/or fecal specimens may be disposed of into the sanitary sewer system and flushed with copius amounts of water.

Note: Amounts disposed of in this manner are negligible.

b. The NRC permits small quantities of I125 liquid waste to be disposed of through a selected sink drain with copius amounts of water. The concentration after dilution with the laboratory discharge must not exceed 4×10^{-2} microcuries/liter (I125) or 10 microcuries per liter (3H), based on a daily average of effluent or a total of 20 microcuries per day. However, all isotope materials, other than patient wastes, should be disposed of via the yellow containers to be picked up by our isotope disposal service.

c. Unused isotopes

1) Are allowed to decay in storage.
2) May be returned to the supplier for recycling of containers.

d. No radioactive materials are incinerated.

6. Handling of Radionuclides:

a. Liquids:

1) Do not pipet or handle directly. Remove liquid from vials with a syringe and needle or automatic pipetting device.

2) Leave vials inside the lead containers.

3) Wash hands after each procedure.

4) No smoking or eating is permitted in the isotope laboratory.

b. In vitro test kits:

1) The level of activity is generally very low.

2) Use care in adding labeled material to test tubes.

3) Cover tubes with the caps provided.

4) Washing: flush with aspirators and wash into the drain with adequate amounts of water. Avoid splashing rinse water.

5) Quantities of I125 above 500 microcuries must be used behind lead shielding. Rubber gloves must be worn.

c. Clothing:

1) Wear a lab coat or apron when handling liquids.

2) Change immediately if coat or apron becomes contaminated. Have coat washed or set aside until the decontamination decays.

3) Check the coat or apron with a survey meter periodically to detect contamination.

7. Liquid Spills

a. Notify supervisor or director immediately.

b. Keep other personnel out of the area.

c. Put on rubber gloves and soak up the spill with absorbent paper. Place the wet toweling in a plastic bag and add the gloves to the bag when finished. Place the bag behind adequate shielding to decay before disposal.

d. Scrub the area with soap and water. Rinse adequately.

e. Survey the area with the portable rate meter to detect residual contamination. Repeat washing if necessary.

f. Wash hands thoroughly.

8. Environmental and Personnel Monitoring

a. Surveys

1) Monitor the work areas, storage area, specimen receipt area and scanning room weekly. Record results.

2) Tolerance limits

a) surface areas should not exceed 3 times background or 220 dpm/100 cm^2.

b) 3 feet distances should not exceed 10 mrem/hr.

3) Corrective actions

a) Surface areas found to exceed limits should be washed.

b) Excessive or unusual contamination should be reported to the director.

b. Personnel Monitoring

1) Film badges are available and their use is encouraged for all personnel but are not required for low level exposures encountered with in vitro testing.

2) Reports of environmental surveys and personnel exposure levels are available to employees on request.

9. Personnel

General requirements for notification of employee rights and of potential hazard.

a. All personnel handling or exposed to radionuclides must be notified and instructed regarding the presence and potential hazard of radionuclides and instructed in safe handling procedures.

b. Personnel performing in vitro tests are required to wear film badges (primarily for legal purposes).

c. Personnel are entitled to

1) Reports of exposure limits (film badges) upon request.

2) A report of any accidental exposure (i.e., notice of any reports sent to NRC).

3) To file complaints.

10. Personnel: Notification and Restrictions

a. Posting of notices: Federal regulations require posting of the following:

1) Regulations pertaining to notices, instructions and reports.
2) License and conditions: on file in laboratory.
3) Notices: on bulletin board.

b. Instructions: Personnel safety procedures

1) Only those who have been instructed in proper techniques and safety precautions will handle radionuclides.

2) Persons with open cuts or sores will not handle isotopes.

3) Pregnant women are advised of potential hazard but are not excluded from working.

4) No pipetting is permitted by mouth.

5) Hands should be covered with rubber gloves during and thoroughly washed after handling of radioactive materials.

6) Spills should be wiped up immediately. All surfaces should be thoroughly cleaned with a suitable detergent and all contaminated materials added to radioactive waste matter.

ITEM 11

Waste Management

A. I125 Waste

All tubes or bead[illegible] have come in contact with I125 are rinsed with copious amounts of water. The contaminated tubes or beads are placed in 38-gallon polyethylene lined D.O.T. approved hazardous waste fiber drums with steel rims and locking lids.

Drums are sealed when filled and dated with the current date and time, and also dated one (1) year hence for disposal. Storage of the drums will be in the basement of the laboratory at the address listed on the license. Access to the basement is restricted, and only a limited number of individuals are permitted in this area. The area is kept locked when unoccupied. A sketch of the storage area is attached (Attachment IV).

Upon expiration, the drums will be opened and monitored for contamination with a surface monitor. Drums that show counts per minute (cpm's) less than twice background will be disposed with regular trash. Any drum that demonstrates surface levels of activity greater than twice background will be held an additional thirty (30) days, and again monitored. No material will be discarded until monitored levels are acceptable.

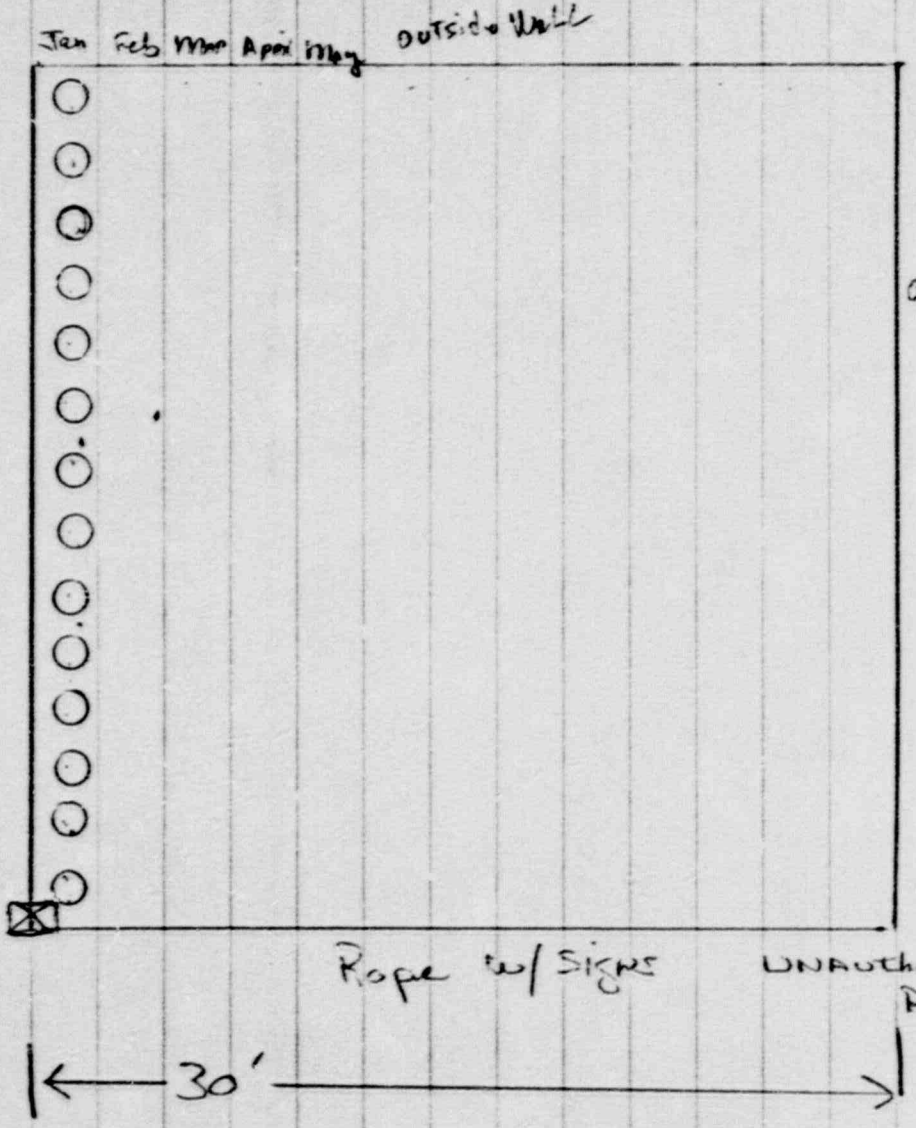
B. Low Level Waste Other Than I125

Low level waste is transported via a contract with Teledyne Isotope for disposal in Washington State, permit #1936.

Effective 11-6-85

ATTACHMENT IV

Typical
Drum Layout



NOTES

1. Storage / One year - 210 Drs
2. One month Rotation - 1 yr.

Wm. Boyle
CC De Stearns
Safety Committee

Radioactive Drum Layout / Basement Storage

Scale 1/8 = 1.0'

1091121

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

11 JUL 1988

Damon Clinical Laboratories
ATTN: Frank M. Stearns, Ph.D.
Laboratory Director & R.S.O.
3190 Tremont Avenue
Trevose, PA 19047

Docket No. 030-19983
License No. 37-15290-02
Control No. 109121

SUBJECT: LICENSE RENEWAL APPLICATION

Gentlemen:

This is to acknowledge receipt of your application for renewal of the 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 and your license number.

Sincerely,

Original Signed By
Doris J. Foster

Doris J. Foster, Chief
Licensing Assistant Section D
Division of Radiation Safety
and Safeguards

"OFFICIAL RECORD COPY" ML19

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 02410
STATUS CODE: 2
FEE CATEGORY: 3P
EXP. DATE: 19880731
FEE COMMENTS: _____

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: DAMON CLINICAL LABORATORIES
RECEIVED DATE: 880623
DOCKET NO: 3019983
CONTROL NO.: 109121
LICENSE NO.: 37-15290-02
ACTION TYPE: RENEWAL

2. FEE ATTACHED
AMOUNT: 120.00
CHECK NO.: 67622

3. COMMENTS

SIGNED BP
DATE 6/30/88

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED / 7)

1. FEE CATEGORY AND AMOUNT: 3P $120

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT _____
RENEWAL /
LICENSE _____

3. OTHER _____
_____

SIGNED S. Kimberly
DATE 7/6/88