38-30746-01

BALESTRACCI UNLIMITED
29 Ridgewood Road
Charlestown, Rhode Island 02813
(401) 364-0652 Phone
(401) 364-3238 Fax

030-36064
LL 30746
06100

BU/02-002
May 14, 2002

Licensing Assistant Section
Nuclear Materials Safety Branch
U. S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Megarad, Inc.
277 West Main Street
Niantic, CT 06357-0118

License Number 06-30423-01

Supplemental Information Relative to Amendment Request

To whom it may concern:

For the purpose of correspondence please forward all inquiries and information to Garry Balestracci, Balestracci Unlimited, Radiation Safety Officer, Megarad, Inc., 29 Ridgewood Road, Charlestown, RI 02813.

For the purpose of radioactive material storage please change the address listed from 277 West Main Road, Niantic CT to 5 Nealy Blvd, Trainer, PA 19061. Currently no radioactive material is possessed or stored at either location under the above referenced license. Storage will be conducted under agreement with Quality Services Laboratories, Inc. at the existing QSL Plus Storage Facility in Trainer, Pennsylvania.

In accordance with Section 8.9 of NUREG-1556, Volume 2 a description of the storage facility is included for your information. Attached is a description of the QSL Plus Storage and exposure facilities located at 5 Nealy Boulevard, Trainer, PA. Drawings and sketches have been included of the facilities showing the pertinent information required by the NUREG-1556.

No changes to specific equipment or use are requested at this time. This request is strictly for a change of address.

If any additional information is required, please contact the undersigned at (401) 364-0652, (860) 884-8359 - cell, (401) 364-3238 - Fax. Thank you for your time and consideration relating to this matter.

Garry L. Balestracci
Radiation Safety Officer

NRC FORM 313 (7-96)
10 CFR 30, 32, 33
34, 35, 36, 39 and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 7/31/99

Estimated burden per response to comply with this information collection request: 7 hours. Submittal of the application is necessary to determine that the applicant is qualiified and that adequate procedures exist to protect the public health and safety. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0120), Office of Management and Budget, Washington, DC 02503. NRC may not conduct or sponsor, and a person is not required to respond to, collection of information unless it displays a currently valid OMB control number.

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.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE MARYLAND MASSACHUSETTS, NEW HAMPSHIERE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION L
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

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

NUCLEAR MATERILAS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION. REGION III
801 WARRENVILLE ROAD
LISLE. IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON. OR WYOMING. SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATION 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 JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)
   - [ ] A. NEW LICENSE
   - [X] B. AMENDMENT TO LICENSE NUMBER 06-30423-01
   - [ ] C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include Zip Code)*
   Megarad, Inc.
   c/o Balestrcci Unlimited
   29 Ridgewood Road
   Charlestown, Rhode Island 02813

3. ADDRRESS(ES) WHERE LICENSED MATERIAL BE USED OR POSSESSED
   5 Nealy Blvd
   Trainer, PA 19061

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION
   Garry Balestracci
   TELEPHONE NUMBER
   (401) 364-0652

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
   a. Element snd mass number, b. chemical and/or physical form; and c. maximum amount which will be possess 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 EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*
    FEE CATEGORY
    AMOUNT ENCLOSED $

13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTIONG 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, PART 30, 32, 34, 35, 39 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, 1945 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLINGLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER - TYPE/PRINTED NAME AND TITLE	SIGNATURE	DATE
Garry L. Balestracci - Radiation Safety Officer	Garry L. Balestracci	5/14/2002

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
APPROVED BY				DATE	

16.0 Permanent Radiographic Facility

16.1 Within the building at 5 Nealy Boulevard, Trainer, PA 19061, there are three permanent exposure cells constructed. The walls are 2' thick x 13' high solid poured reinforced concrete. Topped to the ceiling with solid block 8" thick making each cell a separate enclosure. The rear of the building is built into an earth embankment held back by a 2' thick retaining wall. Floors are 8" poured concrete.

The perimeter of the building is secured with an 8' high barbed wire fence. The area behind the cells within the perimeter is additionally fenced off to a 4' height.

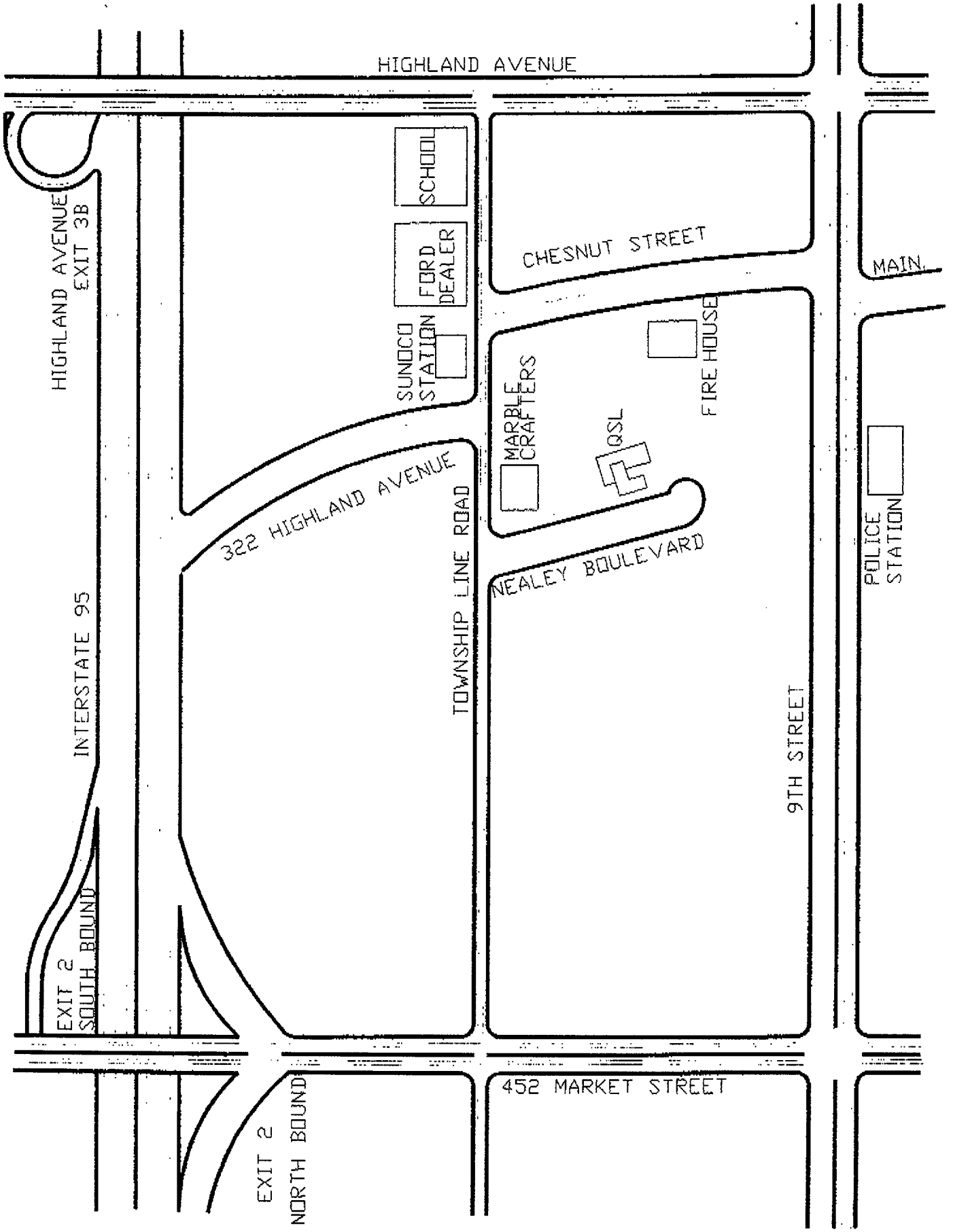
Each cell is equipped with radiation area alarm monitor door/gate interlock mechanism and remote radiation probe. The monitor is mounted at the entrance to the cell (See Diagram 1). The monitor is equipped with an audible and visual alarm. The visual alarm is present whenever radiation intensity above background is present.

The Audible alarm will sound whenever the entrance door is opened while a radiation intensity of above background exists within the room. An operational check list is affixed to the wall, and is to be utilized prior to the beginning of any radiographic operations. A daily check of the exposure rooms audible and visual monitoring system shall be tested. Results shall be recorded on QSL Form #110 and maintained for a period of at least three years.

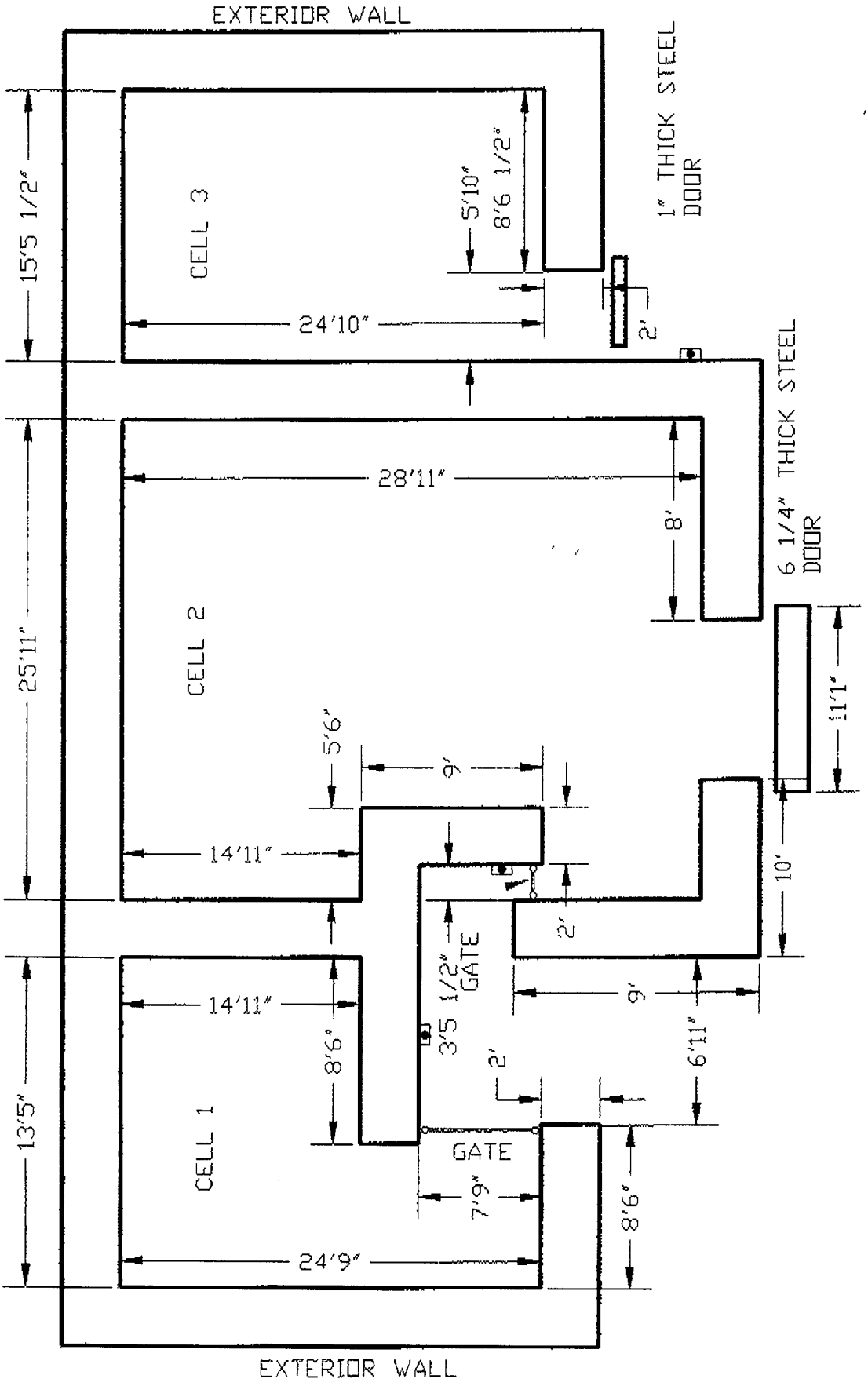
For exposures performed in these permanent facilities, a radiographer can work without the presence of another radiographer or assistant radiographer. At no time shall an assistant radiographer utilize any gamma radiographic device without being under the direct surveillance of a radiographer.

The radiographic exposure (Cells) 1 & 2 are also the storage area(s) for the exposure devices. The devices are secured within the cells to prevent any unauthorized removal. The door/gate are kept locked when not in use.

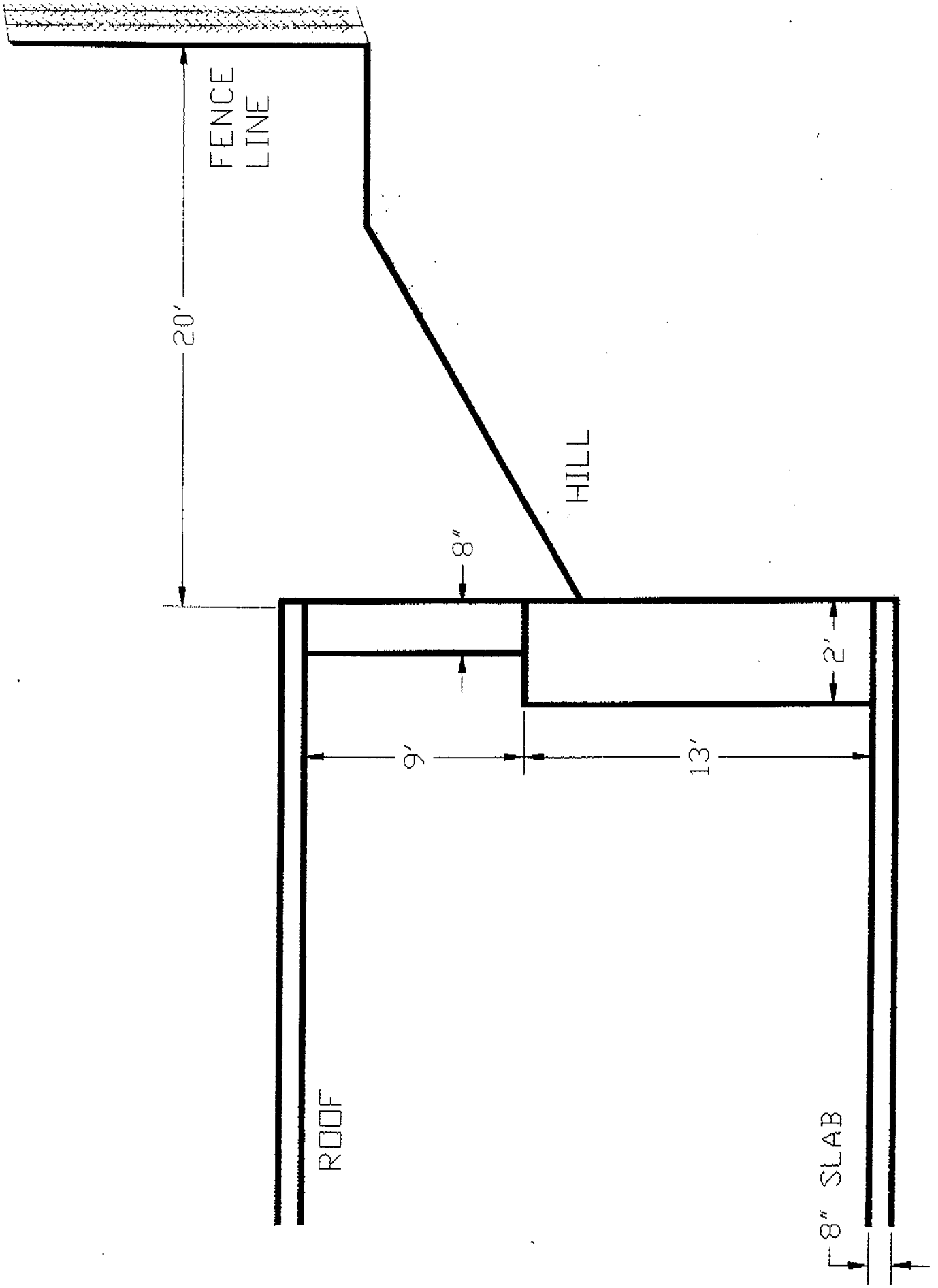
U.S. Nuclear Regulatory Commission, Region 1 Drawing 1

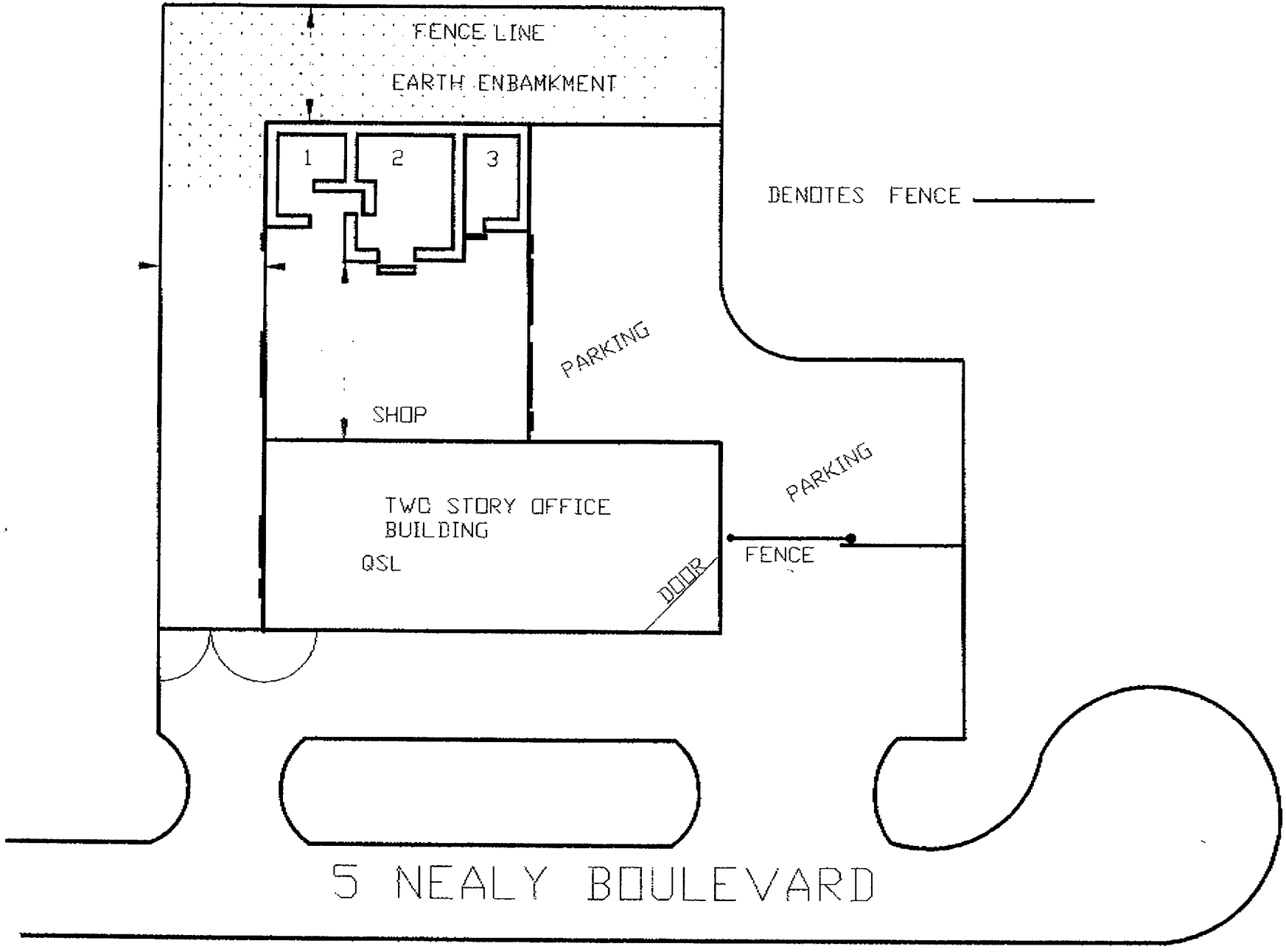


U.S. Nuclear Regulatory Commission, Region 1 Drawing 2



U.S. Nuclear Regulatory Commission, Region 1 Drawing 3




FENCE LINE
EARTH ENBAMKMENT
1
2
3
DENOTES FENCE
PARKING
SHOP
PARKING
TWO STORY OFFICE
BUILDING
QSL
DOOR
FENCE
5 NEALY BOULEVARD

Drawing 4

17.0 Exposure Cell #1

Description

Exposure Cell and Storage Area. 13'5" x 14" area with walls 2' thick solid concrete x 13' high, topped with 8" solid block to ceiling height of 22'. Floor is 8" thick poured concrete slab. The rear wall is a concrete block retaining wall 8' high 2' thick with an additional 5' of poured concrete 2' thick, then topped with solid block to the ceiling. An earth embankment 8' high sloped up to the fence line 20' behind the building. The maze entrance is secured with a 5' tall fence, gate and key locked. It is posted with "Caution – Radioactive Materials" – "Do Not Enter – Authorized Personnel Only". Only radiographic personnel have authorized access. The gate is kept locked when not in use.

ATTACHMENT 'A'
CALCULATIONS FOR STORAGE AREA

The walls is Cell #1 are 24" thick poured concrete. The Amersham Radiation Safety handbook has a graph for the attenuation of Gamma Rays (See Attached).

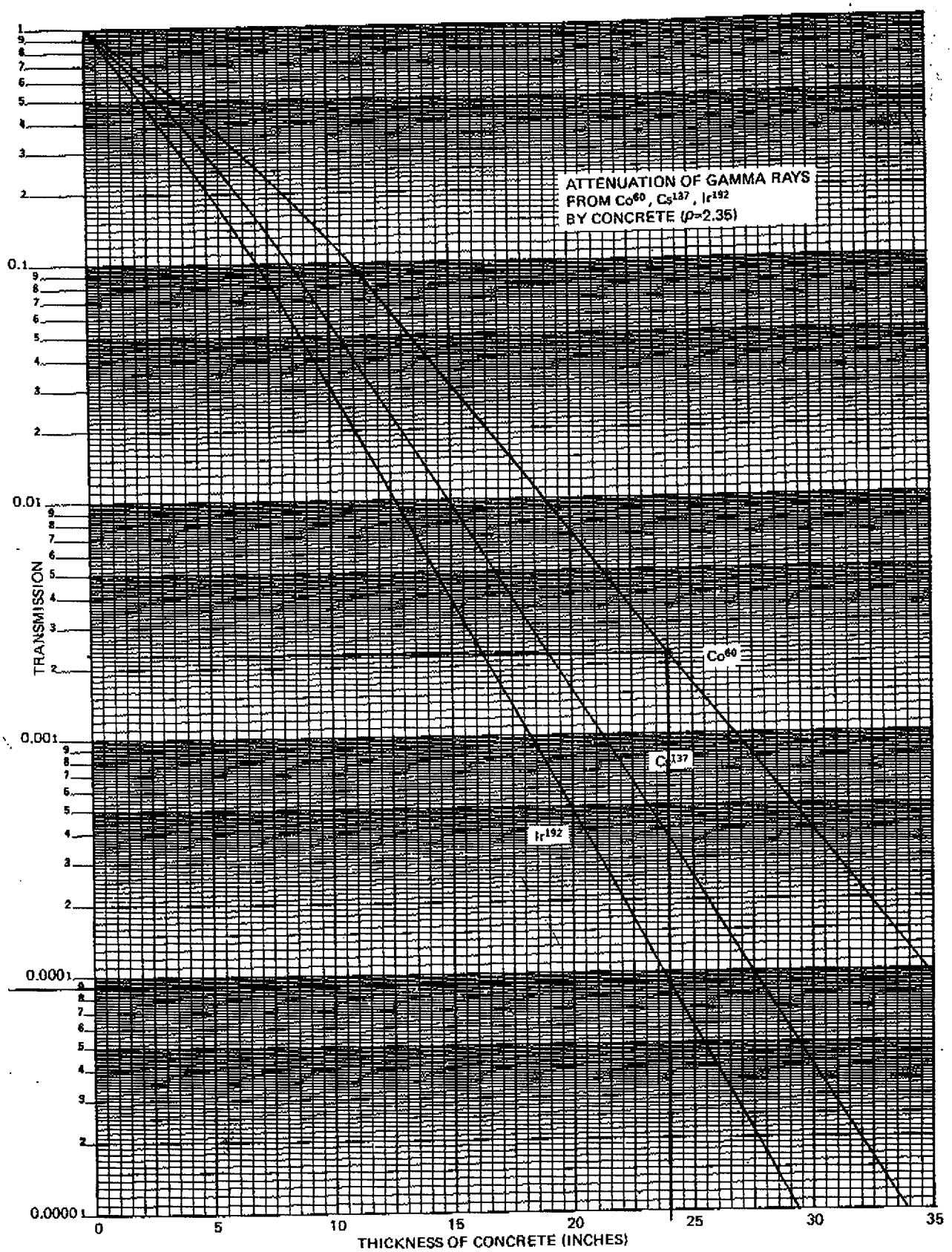
The attenuation for 24" of concrete, Iridium^{192} corresponds to a factor of .00009 and a factor of .0023 for Cobalt^{60}.

Cell #1 has only one exterior building wall. The cell is below grade on the back side and the two remaining walls are inside the building.

Outside the fence line, opposite the exterior wall, 28" away, is the closest unrestricted area to the building where the exposure devices are stored.

Inside the building where an employee may be continually present, i.e. Shipping Clerk is 40' away from storage area wall.

See Examples.


ATTENUATION OF GAMMA RAYS
FROM Co60 , Cs137 , Ir192
BY CONCRETE (ρ=2.35)
TRANSMISSION
1
0.1
0.01
0.001
0.0001
0.00001
Co60
Cs137
Ir192
0
5
10
15
20
25
30
35
THICKNESS OF CONCRETE (INCHES)

For calculation purposes:

Example: Storage of 15 devices stored with a surface reading of 200 mR/hr per package - hypothetically.

15 devices @ 200 mR/hr each = 3000 mR/hr
Attenuation of walls .00009
Distance from device against exterior wall to fence line 30'

$$I_1 \times D_1^2 = I_2 \times D_2^2$$

I_1 = 3000 mR/hr x .00009 = .027 mR/hr
D_1^2 = 1'
I_2 = ?
D_2^2 = 30^2 or 900

$$0.27 \times 1^2 = I_2 \times 900$$

$$\frac{0.27}{900} = I_2 \text{ or } .0003 \text{ mR/hr @ } 30'$$

365 Days Per Year
24 Hours Per Day
Radiation Level in 1 Hr = .0003 mR/hr at fence.

365 x 24 = 8760 hours in one year
8760 x .0003 = 2.628 mR

2.628 mR would be exposure to a member of the public if they were continuously present at fence line for a period of (1) one year - hypothetically.

==========

Inside:

$$I_1 \times D_1^2 = I_2 \times D_2^2$$

I_1 = 3000 mR/hr x .00009 = .027 mR/hr
D_1^2 = 1^2
I_2 = ?
D_2^2 = 40^2 or 1600

$$0.27 \times 1^2 = I_2 \times 1600$$

$$\frac{0.27}{1600} = I_2 \text{ or } .00017 \text{ mR/hr @ } 40'$$

365 Days Per Year
24 Hours Per Day
Radiation Level in 1 Hr @ Clerks Desk 40' Away = .00017 mR/hr

365 x 24 = 8760 hours in one year
8760 x .00017 = 1.49 mR

1.49 mR would be exposure to the clerk if he were continuously present at his desk for a period of (1) one year - hypothetically.

In addition to *Attachment A - Calculation for Storage Area*, here are calculations adding the Cobalt^{60} devices to the Storage Calculations.

For calculation purposes:

Example: Storage of 2 devices stored with a surface reading of 200 mR/hr per package - hypothetically.

2 devices @ 200 mR/hr each = 400 mR/hr
Attenuation of walls for CO^{60} .0023
Distance from device against exterior wall to fence line 30'

$$I_1 \times D_1^2 = I_2 \times D_2^2$$

I_1 = 400 mR/hr x .0023 = 0.92 mR/hr
$D_1^2 = 1'$
$I_2 = ?$
$D_2^2 = 30^2$ or 900

$$0.92 \times 1^2 = I_2 \times 900$$

$$\frac{0.92}{900} = I_2 \text{ or } .0010 \text{ mR/hr @ } 30'$$

365 Days Per Year
24 Hours Per Day
Radiation Level in 1 Hr = .0010 mR/hr at fence.

365 x 24 = 8760 hours in one year
8760 x .0010 = 8.76 mR

8.76 mR added to the same scenario for Iridium^{192} (2.628) totals 11.388 mr which would be the exposure to a member of the public if they were continuously present at the fence line for a period of (1) one year - hypothetically.

==========

Inside:

$$I_1 \times D_1^2 = I_2 \times D_2^2$$

I_1 = 400 mR/hr x .0023 = 0.92 mR/hr
$D_1^2 = 1^2$
$I_2 = ?$
$D_2^2 = 40^2$ or 1600

$$0.92 \times 1^2 = I_2 \times 1600$$

$$\frac{0.92}{1600} = I_2 \text{ or } .00058 \text{ mR/hr @ } 40'$$

365 Days Per Year
24 Hours Per Day
Radiation Level in 1 Hr @ Clerks Desk 40' Away = .00058 mR/hr

365 x 24 = 8760 hours in one year
8760 x .00058 = 5.08 mR

5.08 mR added to the same scenario for Iridium^{192} (1.49 mr) totals 6.57 mr in a one year period would be the exposure to the clerk if he were continuously present at his desk for a period of (1) one year - hypothetically.

Presently, QSLI does not possess any other Licensed Materials that is used for Gamma Radiography - i.e. Calculations for these materials have not been added.

This is to acknowledge the receipt of your letter/application dated May 14, 2002 Rec'd at LAT 06-28-02., and to inform you that the initial processing which includes an administrative review has been performed.

☒ New
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information. 030 - 36064

☐ Please provide to this office within 30 days of your receipt of this card

_____.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 131702. When calling to inquire about this action, please refer to this control number. You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 06100
Status Code: 3
Fee Category: _____
Exp. Date: 0
Fee Comments: _____
Decom Fin Assur Reqd: _

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: BALESTRACCI UNLIMITED
   Received Date: 20020628
   Docket No: 3036064
   Control No.: 131702
   License No.:
   Action Type: New Licensee

2. FEE ATTACHED
   Amount: /
   Check No.: /

3. COMMENTS
   Reference 131703
   Administrative New license
   Signed Rebecca J. Brown
   Date 07/01/02

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /__/)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:
   Amendment _____
   Renewal _____
   License _____

3. OTHER _____
   _____

Signed _____
Date _____