

MS 16

K7

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RECEIVED-REGION 1

'92 APR 29 P1:37

RARITAN BAY CARDIOLOGY GROUP, P.A.

533 NEW BRUNSWICK AVENUE · PERTH AMBOY, N.J. 08861 · PHONE (908) 442-5454  
 3 HOSPITAL PLAZA · SUITE 305 · OLD BRIDGE, N.J. 08857 · PHONE (908) 679-0100

April 28, 1992

Nuclear Regulatory Commission  
Region 1  
475 Allendale Road  
King of Prussia, Pa. 19406-1415

**NRC RESPONSE**

Attn: Judith A. Joustra, Sr. Health Physicist  
Mail Control No. 115979      Docket 030-32637

This is a follow-up to your letter from the NRC which was dated April 2, 1992. The following information should allow you to adequately respond to the NRC:

1. In response to this request Dr. Michael M. Zukowsky is to be the "experienced authorized user". He has over 6,000 hours of nuclear experience including MUGA, Thallium and other cardiology work since 1983, and additional documentation is forthcoming to your agency.
2. We confirm that the sealed sources listed in attachment B.2 will NOT have activities less than those stated in 10 CFR 35.50 (b) (1) (2).
3. We confirm that our facility design will meet 10 CFR 20.105 restrictions for exposure limits in unrestricted areas to insure exposures are not likely to be in excess of (a) 0.5 REM/year, (b) (1) 2mR per hour or (b) (2) 100 mR per seven consecutive days.
4. Attachments P.1.a and P.1.b. were written in response to the new Quality Management (QM) requirement for licensees. Your note that the scope of our use of radioactive materials does not require the development of such a program as a condition of licensure is noted, and we choose to WITHDRAW the QM program as described in P.1.a and P.1.b.
5. We confirm that the check source for the survey meter will be read and documented AT THE TIME OF CALIBRATION by a licensed calibration service, and in addition, we will check it upon receipt to insure consistency with the stated values determined and recorded at the time of calibration.

**OFFICIAL RECORD COPY      ML 10**

115979

APR 29 1992

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6. We confirm that we will assay down to 10 microcuries, including the range up to highest dose that will be administered in accordance with 10 CFR 35.50 (b) (3).

7. (a) We confirm that our method of constancy test record keeping will meet the requirements of 10 CFR 35.50 (e) (1), as provided in Attachment H.7. A copy of this page is enclosed, which identifies the radionuclide contained in the check source, the model number and the serial number of the dose calibrator.

(b) Attachment H.6 has been modified to document the serial number and specify that the required signature is that of the Radiation Safety Officer. A copy of Attachment H.6 is enclosed. We confirm the RSO will sign the form.

(c) A revised version of Attachment H.4 is enclosed, which more clearly documents how the calculated activities will be performed, and is a direct modification of form EXH-14 in the NRC Regulatory Guide 10.8. Further clarification of the procedure was submitted as Attachment H.2, a copy of which is enclosed. We confirm that the Radiation Safety Officer will sign the form.

(d) A revised version of Attachment H.5 is enclosed, which follows more closely page EXH16 of the Regulatory Guide. We confirm that the Radiation Safety Officer will sign the form.

8. The form for documenting leak testing of sealed sources is K.3. The form labeled K was similar, but in a type style that was clearer. Form K is to be discarded. Form K.3 is enclosed with the model number, serial number and indication that the signature of the RSO is required.

We confirm that we will retain these records of leak testing for five years.

9. We confirm that we will be using the form labeled 0.2 which documents the opening of packages and the required measurement at three feet (1m) from the external surface of the package as required by 10 CFR 20.205.

10. The correct form for documenting unit dosage is identified as Attachment P. A revised version is enclosed which specifies the

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expiration date of the dose. Attachment P.3 of the original license application may be discarded.

11. A corrected form P.4. is enclosed which allows for indication of dosage activity before medical use and the expiration date.

12. In accordance with Appendix N of the regulations (10 CFR 30.70 (f)) we will analyze area surveys to a sensitivity of 2000 dpm, and NOT 1000 dpm.

13. The reference to a GM survey meter should be changed to read a sodium iodide detector, which in this case is the Cardiowipe II. The Cardiowipe II is further described in Attachments F.4 and F.5, which show it to perform at the sensitivity level required in 10 CFR 35.70 (f).

14. (a) Our revised trigger level for unrestricted areas conforms to the Regulatory Guide 8.23, Section 7.2 and will be set at 1 mR per hour. This also supports ALARA.

(b) The ambient exposure survey record form (Attachment Q.3) has been modified to indicate the identity of the individual who performed the survey. The corrected form is enclosed.

15. The revised procedures for returning waste to pharmacy are attached, including detail on the performance of required surveys. As stated in the original attachment R related to the disposal of wastes, records of all materials returned to the radiopharmacy will be retained in the "Unit-dose Record"- shown as attachment P. This record form allows for the recording of where the material was used (under patient...., however, if not used for a patient then "Returned to Radiopharmacy" would be indicated), WHO disposed of the material, the date, and where it went (route... in this case, to radiopharmacy). Generally, this form is used to record radiopharmaceutical usage in the patient. However, it includes all receipts of activity intended for patient use and would also stipulate where a radiopharmaceutical was used or disposed of, even if not used in a patient.

Materials to be returned to radiopharmacy will be placed in a suitable container, such as plastic, to prevent leakage, and the container labelled "to radiopharmacy" with the type and form of date surveyed.

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H.2 Additional- Linearity/constancy  
H.5 Dose calibrator geometry dependence  
J Personnel External Exposure Monitoring/ALARA Program  
K.3 Leak testing  
O.2 Opening packages  
P Unit dose documentation  
P.4 Multiple dose documentation  
Q.3 Ambient Exposure Survey Record form  
R Waste to radiopharmacy  
R.2 Disposal form

Sincerely,



Aaron J. Feingold, M.D.

AJF:dm

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This external labelling of the container will include use of the standard three bladed propeller symbol for radiation, in standard yellow and magenta, utilizing either attached stiff paper labels or appropriately marked tape.

The surveying of packages is in accordance with original attachment L of the application, parts 11, 14 15 and 18. This section refers to using and labelling containers, Placement in designated waste container... labelled and shielded, transporting of materials following ALARA methods, and followup checking for contamination.

Attachment N described general rules for the receipt of packages. Attachment O described procedures for safely opening packages, and monitoring. Attachment R described the specific level of activity to be detected (less than 0.05 mR/hr) using the GM survey meter described earlier in the attachments (Att. F.2,F.3).

Attachment R.2 is the Decay in Storage (DIS) record form for ultimate disposal of wastes, and indicates on the form the level of contamination to be survey for, stating as well that the material must be at background before final disposal. At the time of final disposal as non-radioactive material, all labels indicating radiatioactivity will be removed.

16. The facility will be on a unit dose system, resulting in a minimum amount of waste disposal required. Any radiopharmaceutical currently active or not used will be retained in a shielded container for not less than two half lives before being returned to radiopharmacy. This is a MINIMUM period of retention. However, the waste will be monitored prior to actual transmittal to radiopharmacy to insure that exposure limits are not likely to be exeeded. In the event of a dose not used, for example, this may require additional retention in a shielded lead container, potentially as long as ten half lives.

**ATTACHMENTS:**

(in order referenced)

H.7 Dose calibrator constancy

H.6 Dose calibrator accuracy

H.4 Dose calibrator linearity



## Dose Calibrator-Accuracy

### DOSE CALIBRATOR ACCURACY TEST

Licensee: \_\_\_\_\_

License Number: \_\_\_\_\_ Amendment: \_\_\_\_\_

Date: \_\_\_\_\_ Dose Calibrator Model: \_\_\_\_\_ Sr. #: \_\_\_\_\_

Source: Radioisotope: _____		Activity: _____		Model: _____	
Assay		Source Serial No. _____			
A.	_____	Calibration Date:	_____		
B.	_____	Decay Factor:	_____		
C.	_____	Decay Corrected	_____		
Avg.	_____	Activity:	_____		
Calculated Deviation: _____					

Source: Radioisotope: _____		Activity: _____		Model: _____	
Assay		Source Serial No. _____			
A.	_____	Calibration Date:	_____		
B.	_____	Decay Factor:	_____		
C.	_____	Decay Corrected	_____		
Avg.	_____	Activity:	_____		
Calculated Deviation: _____					

Source: Radioisotope: _____		Activity: _____		Model: _____	
Assay		Source Serial No. _____			
A.	_____	Calibration Date:	_____		
B.	_____	Decay Factor:	_____		
C.	_____	Decay Corrected	_____		
Avg.	_____	Activity:	_____		
Calculated Deviation: _____					

**Evaluation**

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Radiation Safety Officer (Required)



### Linearity

**Frequency:** At time of installation and not less than quarterly thereafter, as well as after repair, adjustment, or relocation.

**Acceptable Range:** +/-5% of the expected activity

- a) From the pharmacy obtain a syringe containing not less than the amount of the highest dose ever administered to a patient of  $^{99m}\text{Tc}$ .
- b) "Count" the syringe in the dose calibrator at the earliest time in the morning, i.e. 8:00 am, and record the mCi indicated, minus background.
- c) "Count" the syringe again not less than six times during a 78 hour period of time (3.25 days). Record the readings, minus background.
- d) Plot the values obtained on semi-log graph paper and draw the best-fit line through the values. Circle the point of greatest deviation from its value on the line.
- e) Calculate the maximum deviation of the circled point from its value on the line. If the deviation is more than +/- 5% (0.05) the instrument will be adjusted or repaired. If it can not be adjusted or repaired, a correction table or graph that will allow conversion from activity indicated to true activity will be made and placed on the calibrator.

On a quarterly basis, the applicant will determine that the measurement chamber is in place and that the instrument is zeroed according to the manufacturer's instruction.

### Constancy

**Frequency:** Once prior to use on each day of use as well as after repair, adjustment or relocation.

**Acceptable Range:** +/-5% of the anticipated value

If no radioisotopes are received or used during the day, no operations take place, then constancy will not be checked on that day.

- a) Measure the  $^{57}\text{Co}$  sealed, dose calibrator source on the  $^{201}\text{Tl}$ ,  $^{57}\text{Co}$ , and  $^{99m}\text{Tc}$  settings. Measure the  $^{137}\text{Cs}$  source similarly.
- b) Record the background at the same settings.
- c) Determine the activity indicated, at the settings, by subtracting the background, b), from the readings determined in a), and record this value.
- d) Compare the measured  $^{137}\text{Cs}$  activity to activity calculated from a  $^{137}\text{Cs}$  decay table or graph.
- e) Determine action levels for the reading at each setting reflecting the range of +/- 5% of the anticipated reading. If the value is greater than +/- 5%, notify the RSO and if it is 10% or greater from the expected value, the instrument will be repaired or replaced.
- f) Record above constancy measurement.

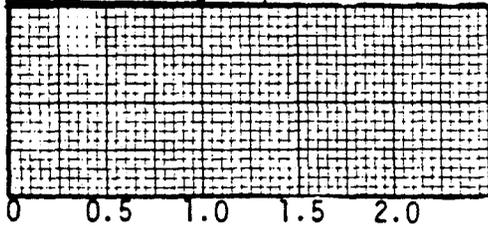
# Dose Calibrator: Geometry

## DOSE CALIBRATOR GEOMETRY TEST

Licensee: \_\_\_\_\_  
 License Number: \_\_\_\_\_ Amendment: \_\_\_\_\_  
 Date: \_\_\_\_\_ Dose Calibrator Model: \_\_\_\_\_ Sr. #: \_\_\_\_\_  
 Radioisotope: \_\_\_\_\_ Form: \_\_\_\_\_

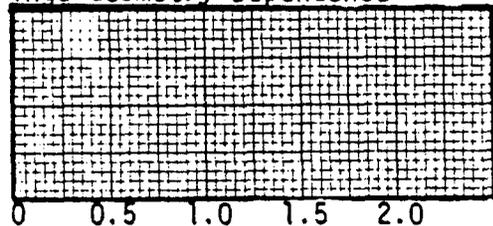
### Syringe Geometry Dependence

Syringe Geometry Dependence



CF \_\_\_\_\_

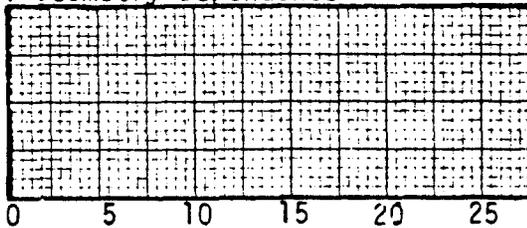
Syringe Geometry Dependence



CF \_\_\_\_\_

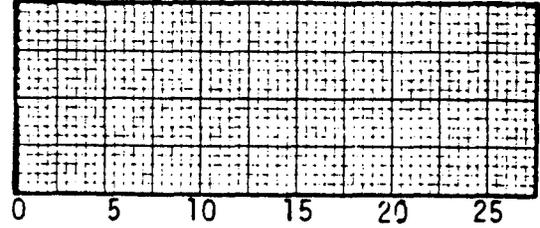
### Vial Geometry Dependence

Vial Geometry Dependence



CF \_\_\_\_\_

Vial Geometry Dependence



CF \_\_\_\_\_

Analysis of Geometry Dependence Data From Above: \_\_\_\_\_

By: \_\_\_\_\_ RSO: \_\_\_\_\_ Date: \_\_\_\_\_

Licensee: \_\_\_\_\_ License #: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Leak Test: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_ Assay: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Instrument: \_\_\_\_\_ PHA E \_\_\_\_\_ Kev to \_\_\_\_\_ kev

Standard: Radionuclide \_\_\_\_\_ Assay Activity \_\_\_\_\_ Date: \_\_\_\_\_

Source Serial #: \_\_\_\_\_ Model #: \_\_\_\_\_

**I. Leak Testing**

Swipe/ Sample #	Isotope	Activity mCi	Serial #	Assay Date	Form	Use	Swipe/Sample Method
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**II. Sample Analysis**

Swipe/ Sample	Gross - cpm	Bkg cpm	= Net cpm	x $\frac{\text{dpm}}{\text{cpm}}$	x $\frac{1 \mu\text{Ci}}{2.2 \times 10^6 \text{ dpm}}$	= $\mu\text{Ci}$	Action Taken**
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

\* From "Standard Analysis" below-line D

\*\* See "Leak Test Action Levels" below

**III. Standard Analysis**

- A. Gross cpm \_\_\_\_\_ - Bkg cpm \_\_\_\_\_ = Net cpm.
- B. Assay  $\mu\text{Ci}$  \_\_\_\_\_ x Decay Factor \_\_\_\_\_ =  $\mu\text{Ci}$  \_\_\_\_\_
- C.  $\mu\text{Ci}$  \_\_\_\_\_ x  $2.22 \times 10^6 \text{ dpm}/\mu\text{Ci}$  = dpm \_\_\_\_\_
- D. Calibration Factor C/A = dpm/Net cpm = \_\_\_\_\_ = dpm/cpm.

**IV. Leak Test Action Levels**

If the above test reveals 0.005  $\mu\text{Ci}$ ,  $1.11 \times 10^4$  dpm, of removable activity, the source must be removed from service, repaired or replaced. Any required repair or disposal will be done in accordance with the license conditions and current regulation. In addition, a contamination survey, for removable contamination, will be performed to assure no contamination exists in the facility, and the source will be labeled "Leaking Source - Do Not Use".

By: \_\_\_\_\_ Date: \_\_\_\_\_

Radiation Safety Officer (Required)



**UNDOSE RECORD — RADIOPHARMACY RADIOPHARMACEUTICAL UNDOSE RECORD**

**PACKAGE RECEIPT AND MONITOR RECORD**

Radiopharmacy: \_\_\_\_\_

Receipt Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm By: \_\_\_\_\_ Confirmation With Order: \_\_\_\_\_

Package Condition: \_\_\_\_\_ Surface Exposure Rate: \_\_\_\_\_ mR/hr Contamination: \_\_\_\_\_

Notes: \_\_\_\_\_

**PRESCRIPTION RECORD**

Prescription Record Activity _____ Isotope _____ Form _____ Patient _____ Time _____ By _____	Dose Calibrator Pre-Administration _____ Activity Check _____	Disposal Record Disposal Route: _____ Date: _____ Returned To Radiopharmacy _____ Exp. Date: _____
Prescription Record Activity _____ Isotope _____ Form _____ Patient _____ Time _____ By _____	Dose Calibrator Pre-Administration _____ Activity Check _____	Disposal Record Disposal Route: _____ Date: _____ Returned To Radiopharmacy _____ Exp. Date: _____
Prescription Record Activity _____ Isotope _____ Form _____ Patient _____ Time _____ By _____	Dose Calibrator Pre-Administration _____ Activity Check _____	Disposal Record Disposal Route: _____ Date: _____ Returned To Radiopharmacy _____ Exp. Date: _____
Prescription Record Activity _____ Isotope _____ Form _____ Patient _____ Time _____ By _____	Dose Calibrator Pre-Administration _____ Activity Check _____	Disposal Record Disposal Route: _____ Date: _____ Returned To Radiopharmacy _____ Exp. Date: _____
Prescription Record Activity _____ Isotope _____ Form _____ Patient _____ Time _____ By _____	Dose Calibrator Pre-Administration _____ Activity Check _____	Disposal Record Disposal Route: _____ Date: _____ Returned To Radiopharmacy _____ Exp. Date: _____

**UNDOSE RECORD — ISOTOPE \_\_\_\_\_ FORM \_\_\_\_\_**

Note: Complete the Order and Receipt Record prior to entering any information on this record form.

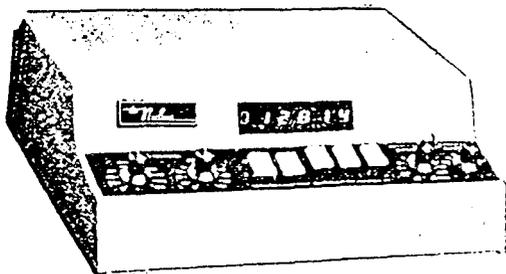
Date Received	Supplier	Lot #	Calibration			Administration		Dose Calibrator Activity Check	Expir. Date	Patient		By	Disposal	
			Activity	Date	Time	Date	Time			Name	Number		Date	Route

**RADIOPHARMACEUTICAL RECORDS**  
 Records of the radiopharmaceutical, supplier, date, time, activity, patient, pre-administration dose calibrator assay and person administering the material will be maintained by the facility. These records will be completed on the forms shown below, or on a form supplied by the radiopharmacy containing all of the same information.



## CARDIO-WIPE II

A scaler/timer system interfaced to a NaI crystal detector. The scaler/timer features a built in power supply with full-range control from zero through 2000 volts. Separate lighted switches are provided for on-off, line frequency test, count, stop, and reset functions. A single MHV connector is provided on the back panel, along with a line fuse holder. The NaI(Tl) well scintillation probe is mounted in a base which provides 1.9cm of virgin lead shielding to all externally exposed surfaces. The 4.5 x 5.1 cm crystal contains a 3.8 cm deep well of 1.7 cm diameter. The well is lined with .25mm aluminum. A single MHV cable connector is provided for interface.\*



### MODEL WP-2000 WELL SCINTILLATION PROBE (FOR TEST TUBE SAMPLES)

Scintillator: 1.75" (4.5 cm) x 2" (5.1 cm) NaI(Tl) well crystal; well: .7" (17 mm) diameter x 1.5" (3.8 cm) deep; well entrance window: .01 inch aluminum (.25 mm)

PM Tube: 2" (5.1 cm) diameter  
Resolution: 9% or better (full-width-half-maximum for Cs-137 (0.662 Mev))

Shielding: .75" (1.9 cm) virgin lead surrounds crystal

Dimensions: Height: 10.75" (27.3 cm)  
Base diameter: 6" (15.2 cm)  
Lead height: 5" (12.7 cm)  
Lead diameter: 4" (10.2 cm)

Connectors: High voltage cable: MHV  
Signal cable: BNC

*Note: With AA-2010 System only one cable is required for both high voltage and signal; single MHV*

### TECHNICAL DATA FOR MODEL 500 SCALER/TIMER

Readout: 999,999 counts, all electronic, no mechanical register  
Resolving Time: better than one microsecond  
Input Sensitivity: 0.25 volt negative  
Voltage: 0 to 2000 volts, continuously variable; zener regulated; coarse and fine controls  
Preset Timing: 0.5, 1, 2, 5, 10 minutes and manual; derived from power line frequency; accuracy to 0.03%  
Power Requirement: 105-125 volts, 60 Hz (230 volts, 50 Hz optional)  
Detector Input: MHV connector  
Shipping Weight: 14 pounds (6.4 kg)  
Dimensions: 4.5" (11.4 cm) high x 11" (27.9 cm) wide x 10.5" (26.7 cm) deep  
In Line Fuse: 1 amp

WP-2000  
(Without Lead Shield)



\* Manufacturer of origin is The Nucleus, 761 Emory Valley Road, Oak Ridge, TN 37830-2561.

## CARDIO-WIPE II

### Technical Specifications

The following empirical data were obtained in a controlled bench-top environment to determine the Minimum Detectable Activity (MDA) and Lower Limit of Detection (LLD) of the system as required by 10 CFR 35.70. The instrument was operated without pulse height analysis. An NIST traceable  $^{57}\text{Co}$  source was used to approximate the response of the system to  $^{99\text{m}}\text{Tc}$ . Calculations were performed using the method described in the Appendix to Regulatory Guide 4.14 Revision 1 by the Nuclear Regulatory Commission. Because the system will be used to perform analysis of wipe and swipe samples, no correction factors were used for variations in sample volume or fractional radiochemical yield.

#### RAW DATA:

Average background - 390 cpm - 6.5 cps  
Standard deviation of background - 20 cpm - 2.5 cps

$^{57}\text{Co}$  NIST Standard source - Serial Number C-113-3  
.69 uCi ( 1,528,572 dpm) on date of testing  
Net yield in well 1,050,610 cpm

#### CALCULATIONS:

System efficiency

$$1050610\text{cpm}/1528572\text{dpm} = .68 \text{ cpm/dpm} = 68\% \text{ efficient}$$

Lower Limit of Detection for  $^{99\text{m}}\text{Tc}$

$$\frac{4.66 \times 2.5}{3.7 \times 10^4 \times .68 \times e^{-.693/6h \times 1h}} = .0005\text{uCI} (1144\text{dpm})$$

Thus this instrument meets the requirements of 10 CFR 35 to detect 2000 disintegrations per minute.

AMBIENT EXPOSURE SURVEY RECORD FORM

The form used for this survey is found, reduced in size, below. The floor plan of the facility will be reproduced on the form and the locations of the measurements indicated, by numbers, on the floor plan.

AMBIENT EXPOSURE SURVEY  
(Survey For Source Exposure and Contamination)

Instrument: \_\_\_\_\_ Probe \_\_\_\_\_

Date of Calibration: \_\_\_\_\_ Reference Check \_\_\_\_\_ mR/hr

I. SURVEY AREA

II. SURVEY

Surveyed By:	Date	Identification of Location and Exposure in mR/hr												Operator Action*	
		1	2	3	4	5	6	7	8	9	10	11	12		

\*See "Exposure Action Levels" below

III. EXPOSURE ACTION LEVELS (mR/hr of ambient exposure)

1. All areas	Any unexpectedly high or low levels
2. All areas	Any exposure when radionuclides should not be present
3. Unrestricted areas	2.0 mR/hr or higher
4. Restricted areas	5.0 mR/hr or higher

## RADIOISOTOPE WASTE DISPOSAL PROCEDURE

**Disposal By Transfer**

- 1) Spent syringes and unused sources obtained from the radiopharmacy will be returned to the supplier. *Only* materials from the radiopharmacy will be returned to the supplier. Retain records of all materials returned to the radiopharmacy with the "Unidose Record—Radiopharmacy Radiopharmaceutical Unidose Record" form, located in the Radiopharmaceutical Record section of this application.

**Disposal By Decay-In-Storage (DIS)**

- 1) Short-lived material, i.e., materials with a physical half-life of less than 65 days, will be disposed of by DIS.
- 2) Radioisotopes that are currently active (activities not used nor returned to the radiopharmacy) will be kept in the lead storage container for not less than two half-lives. These will then be transferred to the DIS storage container, as described below, after the radiation label has been violated and shielding removed.
- 3) Syringes and capped needles will be placed in a separate container for eventual disposal (after DIS), in compliance with state and local public health regulations.
- 4) Injection paraphernalia, such as swabs, gauze, tubes, and other contaminated materials, will be placed directly in the DIS containers.
- 5) All materials placed in the DIS container will have the radiation labels violated and the shielding removed. These materials will be placed inside the container, in 2-ply plastic bags. When the bag is full, or every few weeks, the bag will be sealed with string or tape, and identified with the date sealed, the longest-lived radioisotope in the container, and the initials of the person sealing the container. The bag will then be contained for additional DIS, if required. No material will be disposed in less than 10 half-lives of the longest half-life in the container.
- 6) Prior to disposal, as in-house waste, the bag will be monitored with the following technique:
  - a) GM survey detector will be checked for proper operation
  - b) Bag will be removed to a low-level background area (less than 0.05 mR/hr)
  - c) All surfaces of the bag will be monitored
  - d) If there is no exposure above background, the bag may be discarded. If there is exposure, the bag will be returned to DIS
  - e) Complete records of DIS will be maintained on the "Disposal By Decay In Storage Record" form, located on the next page

Note: Sealed sources, such as  $^{57}\text{Co}$ ,  $^{133}\text{Ba}$ , and  $^{137}\text{Cs}$ , that must be disposed of by the applicant, will be disposed of by transfer to a supplier who has a license to receive such material. This transfer will be completely documented by the applicant prior to disposal.

