



The Service Difference

DL-121295-02  
Syncor International Corporation

December 12, 1995

Nuclear Materials Licensing Section  
U.S. Nuclear Regulatory Commission, Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, GA 30323-0199

RE: Amendment Request for Syncor International Corporation, NRC License No 45-18378-01MD, Virginia Beach, VA.

Attention Licensing:

Please amend the above referenced license for the following:

- 1 to extend the expiration date for a one (1) year period of time. We are requesting this extension due to the consolidated license application that Syncor International Corp. has submitted (dated May 31, 1993), which is currently under review by the NRC.
- 2 authorization to revise a portion of our radioactive waste handling and disposal procedures in our license renewal application dated 03/25/89. We wish to have the option of removing radioactive waste from the lead containers if the radioactive waste measures above background and less than 2 mR/hr. All radioactive waste that measures above 2 mR/hour will be returned to a lead waste container for further decay in storage. Please see the enclosed revised waste handling and disposal procedures for this request.

If I can be of any further assistance, please call me at (818) 717-4551 or Tara Domiter at (818) 717-4615

Sincerely,

David W Pellicciarini  
Program Manager, Health Physics

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cc: Cliff McClendon, R.Ph., Loc Mgr  
License File (007)

**Revised Radioactive Waste Handling and Disposal Procedures**

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## RADIOACTIVE WASTE HANDLING AND DISPOSAL

### A Waste Generated

- 1 All waste generated by the nuclear pharmacy is related to radiopharmaceuticals used by the medical profession. Since none of the radioactive materials used have long half-lives, Syncor has established a waste classification system to be used for segregating various types of material according to half-life, and the quantity of waste generated. Waste should be segregated according to the following classifications:
  - a very short half-life Tc-99m waste. (~90%)
  - b short half-life Xe-133, Ga-67, Tl-201, etc waste (~6%)
  - c long half-life I-125, Co-57, etc waste (~1%)
  - d generator cores Mo-99 waste (~2%)
  - e I-131 waste (<1%)
- 2 Methods for Holding Waste
  - a Sufficient number of 3/8", 1/2" or 3/4" lead barrels with a diameter of 16", 24" high, mounted on 1/4" lead plates on casters. A 1/4" lead plate square is used as a lid
  - b A container emptying rotation cycle is established to ensure that all material has been stored for a minimum of ten (10) half-lives, and until it has reached background levels
  - c When a container is filled, it is sealed, the date is placed on the container, and the radiation level at the surface of the container is determined
  - d When all containers are filled, the container which has the earliest date sealed is disposed of, provided its activity level has returned to background level when measured with a low level survey meter, and it has decayed for at least ten half lives.

### B Waste Disposal Procedures

1. Used generators are either returned to the manufacturer, stored for decay, or transferred to a licensed waste disposal firm

- a Return Mo-99, Tc-99m generator to original shipping container
- b Perform wipe test on surface of container
- c Obtain radiation levels at surface and one (1) meter.
- d Complete appropriate labeling and prepare shipping certificate (if necessary)

**NOTE:** Used generators will be stored until returned to manufacturer, until they have decayed to levels suitable for dismantling for core storage or until they are transferred to a licensed waste disposal firm. Those which will not decay out will be stored or disposed of through a licensed waste disposal firm

## 2 Receiving Waste Returned From Customer

Returning unit dose shields may contain used syringes and/or vials therefore, it is necessary for the individual checking in this material to wear disposable rubber gloves

- a Open unit dose shield, identify material by Rx label and/or color coding, if needed
- b Dump contents of unit dose shield directly into bin provided. Touch only the outside of the unit dose shield
- c Survey unit dose container for contamination with a low level survey meter. If a unit dose shield demonstrates activity levels greater than background, remove from service, and place in the storage area for decay to background levels. When surveying unit dose shields for reuse, any unit dose shield which demonstrates a survey meter response greater than background must be wipe tested. If wipe test samples demonstrate contamination levels greater than 220 dpm, the unit dose shield should be decontaminated until less than 220 dpm of contamination is detected

## 3 Survey Procedures for Disposal of Waste into Normal Trash

**NOTE:** Always wear disposable gloves when handling waste

- a. Check survey meter to make sure it is operating properly.
- b. Record background of survey meter on waste disposal record. Obtain background in low background area.
- c. Select waste from container that indicates that waste has decayed for at least 10 half-lives
- d. Remove plastic bag (or fiberboard liner) from lead container.
- e. Measure radiation level over the entire surface of plastic bag with the survey meter. If waste contains beta emitters, make sure beta shield is open.
- f. If RAM waste measures background
  1. Remove all radioactive tags or obliterate RAM labels
  2. Dispose of into normal trash
- g. If RAM waste measures above background and less than 2 mR/hr, it may be placed within the lead waste container or outside of the lead waste container for further decay in storage
- h. If RAM waste measures above 2 mR/hour return to lead waste container for further decay in storage.
- i. Record all findings on "Radioactive Waste Disposal Record".

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