05-09-96 10:07PM FROM NUCLEAR MEDICINE

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Healthcare Corporation

CHIPPENHAM MEDICAL CENTER
JOHNSTON-WILLIS HOSPITAL

TO: Earl Wright
NRC
404-331-5617

FROM: CMC NUCLEAR MEDICINE

PHONE: (804) 323-8288
FAX: (804) 323-8837

Lenna Deletis

PAGE 1 OF

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6/9/95 FAXCOVER CMC

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COLUMBIA/HCA
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CHIPPENHAM MEDICAL CENTER
JOHNSTON-WILLIS HOSPITAL

Received 6/6/96 EJW

File: Lic # 45-15249-01

May 29, 1996

ATTN: Earl Wright
U.S. Nuclear Regulatory Commission, Region II
Nuclear Materials Safety Section
101 Marietta Street, Suite 2900
Atlanta, Georgia 30323
Phone (404) 331-5617
Fax (404) 331-7437

RE: Amendment of License 45-02888-01and 45-15249-01
Reference Control # 256931; Docket # 030-08805

Dear Mr. Wright,

Please find attached the additional information and/or clarification about the information submitted with the letter dated April 19, 1996.

1. Attachment 9.6.1 titled Facilities description:

   a. Item Nos. 4 has been revised to include this information please note changes on page 7, #4 and page 8, #4. A more complete diagram of the Outside Radiation Storage Area for Chippenham has been also included to help clarify some of Mr. Wade Loo's questions.

   b. Item Nos. 6 has been removed since the Radiation Safety Notebook referenced is the departmental Radiation Safety P&P Notebook that houses daily QC/QA forms that are used to assist in the monitoring of the Radiation Safety Program. The forms may often need changing/upgrading in the continuous quality improvement process and would be too cumbersome to include within the specific license.

2. Attachment 10.5: find enclosed the copy of the Radioactive Spill Report you requested. Note on ATT 10.5, #6, the wording has been modified to state use the most current Radioactive Spill Report.

3. a. Find enclosed copy of the most current form used for nursing instructions for therapeutic use of sealed sources. Please note the change in wording under ATT 10.15, #3 indicating instructions to use the most current form. This was modified as per my conversation with Mr. Wade Loo, to prevent a license amendment to modify the form in the future. This is sometimes needed to accommodate the placement of the patient name plate, etc.

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Log log
256931

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CHIPPENHAM MEDICAL CENTER
JOHNSTON-WILLIS HOSPITAL

3. Continued

b. Item Nos. 1 and 7 have been revised, please note the current 10 CFR 20.

4. a. The wording in Item 4. 10.15b, has been changed see enclosed.

b. Enclosed please find the revised emergency call list. As per my conversation with Mr. Wade Loo, I have removed the specific names and phone numbers of the individuals listed and have added notification of the RSO.

5. Please review the new Attachment 11.1, first paragraph, the statement "The RSO will monitor radioactive waste disposal" has been added.

Sincerely,

Lenna B. Deletis, RSO

cc:Marilyn Tavenner, CEO
Dr. John Thornton, RSO JWH

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ATT 9.6.1
Facilities Description

CHIPPENHAM MEDICAL CENTER

1. The Nuclear Medicine facilities are in hospital's north tower, on the fourth floor. The unit has (4) camera rooms, 1 dexa BMC bone densitometer, hot lab, a dark room, computer/tech area, reception, offices, and a break room. (See diagram)

2. All radioactive materials will be received in the hot lab. After hour deliveries will be placed in the hot lab by the radiopharmacy personnel. All radioactive doses will be drawn in the hot lab. The doses received by the department come in shielded containers.

3. Fixed shielding in the department consists of 3/16" lead-lined walls of the hot lab along with similar shielding in the storage cabinet within the hot lab. This cabinet is used for storage of sealed sources, radioactive waste, and some doses. Large lead boxes are used in the hot lab to ensure waste being held will not expose personnel to levels over those set in 10 CFR 20. Daily and weekly surveys are done to ensure compliance. An L-shield is used on the counter top in the hot lab for handling of doses prior to calibration and patient injection.

4. An outside Hot Trash storage is used for decay and storage of low level radioactive wastes, located inside the fenced in mechanical quadrangle of the first floor of the medical center (see diagram). This is an open area of mechanical equipment and access is restricted. The corner two inside walls are immediately adjacent to mechanical spaces with limited access. The waste is held in large jobsite chests within a separate walled/fenced area that is chained and padlocked. The chests are weather resistant and are also padlocked. All padlock keys are kept securely in the Nuclear Medicine Hot Lab. All waste placed in the chest are sealed in plastic bags providing a secondary barrier from moisture. The sheer size and weight of the chest ensure that the unit itself will not be stolen. The majority of the waste stored in the chest is low level and presents minimal risks to the general public. Using the definitions in Part 20 for "Radiation Area" and "Restricted Areas" the fenced in area is labeled as a restricted area and the chests are labelled as containing radioactive waste materials.

5. The stress department is located on the 4th floor, north tower, next to the elevators. See attached di[illegible]

JOHNSTON-WILLIS HOSPITAL

1. The Nuclear Medicine facilities are located on the first floor of the main hospital. The unit has (3) camera rooms, hot lab, a dark room, and an office. (See diagram).

2. All radioactive materials will be received in the hot lab. After hour deliveries will be placed in the hot lab by the radiopharmacy personnel. All radioactive doses will be drawn in the hot lab. The doses received by the department come in shielded containers.

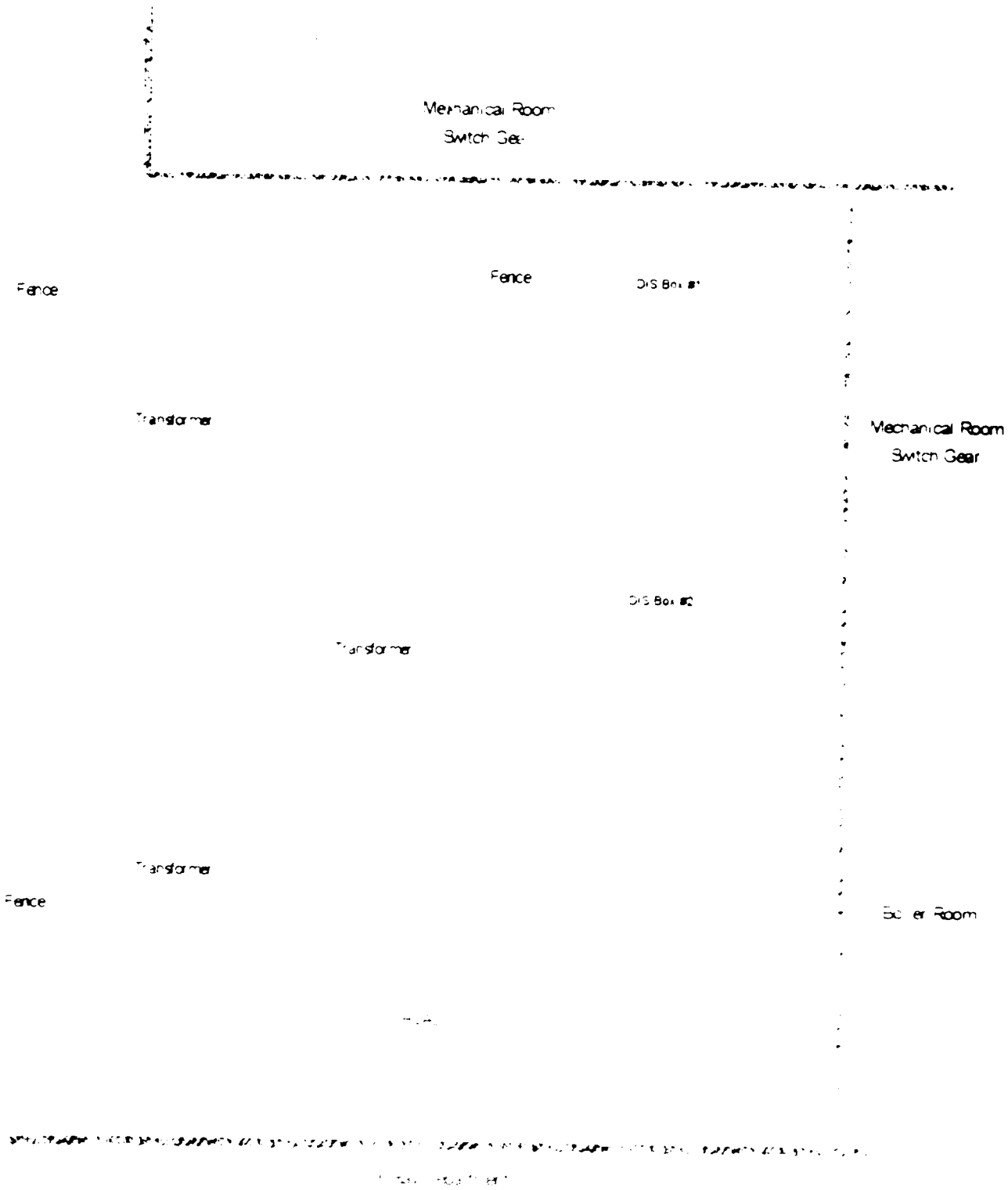
3. Fixed shielding in the department consists of 3/16" lead-lined walls of the hot lab along with similar shielding in the storage cabinet within the hot lab. This cabinet is used for storage of sealed sources, radioactive waste, and some doses. Large lead boxes are used in the hot lab to ensure waste being held will not expose personnel to levels over those set in 10 CFR 20. Daily and weekly surveys are done

to ensure compliance. An L-shield is used on the counter top in the hot lab for handling of doses prior to calibration and patient injection.

4. An outside Hot Trash storage area is used for decay and storage of low level radioactive wastes adjacent to our administration building (see attached diagram) The waste is held in large jobsite chests within the fenced area that is secured by a chain and padlock. The chests are weather resistant and are padlocked. All padlock keys are secured in the Nuclear Medicine Hot Lab. All waste placed in the chests are sealed in plastic bags providing a secondary barrier from moisture. The sheer size and weight of the chests ensure that the unit itself will not be stolen. The majority of the waste stored in the chest is low level and presents minimal risks to the general public. Using the definitions in Part 20 for "Radiation Area" and "Restricted Area" to post the area, the fenced in area is labeled as a restricted area and the chests are labelled as containing radioactive waste materials

5 The stress department is located on the second floor in the Special Procedures Department. See attached diagram.

Chippenhman Medical Center
Decay-in-Storage Area



ATT 10.5

Emergency Procedures

Minor Spills of Liquids and Solids

1. Notify persons in the area that a spill has occurred.
2. Prevent the spread of contamination by covering the spill with absorbent paper.
3. Clean up the spill using disposable gloves and absorbent paper. Carefully fold the absorbent paper with the clean side out and place in a plastic bag for transfer to a radioactive waste container. Also put contaminated gloves and any other contaminated disposable material in the bag.
4. Survey the area with a GM survey meter. Check the area around the spill. Also check your hands, clothing, and shoes for contamination.
5. Report the incident to the Radiation Safety Officer.
6. The Chief Technologist will supervise the cleanup of the spill and will complete the most current Radioactive Spill Report and a final survey of the area.

Major Spills of Liquids and Solids

1. Clear the area. Notify all persons not involved in the spill to vacate the room.
2. Prevent the spread of contamination by covering the spill with absorbent paper, but do not attempt to clean it up. To prevent the spread of contamination, limit the movement of all personnel who may be contaminated.
3. Shield the source if possible. This should be done only if it can be done without further contamination or a significant increase in radiation exposure.
4. Close the room and lock or otherwise secure the area to prevent entry.
5. Notify the Radiation Safety Officer. The RSO will be responsible to supervise clean-up.
6. Decontaminate personnel by removing contaminated clothing and flushing contaminated skin with lukewarm water and then washing with mild soap. If contamination remains, induce perspiration by covering the area with plastic. Then wash the affected area again to remove any contamination that was released by the perspiration.

Relative Hazards of Common Nuclides

Spills above these millicurie levels are considered major, below are minor

Radionuclide	Millicuries	Radionuclide	Millicuries
P-32	10	Tc-99m	100
Cr-51	100	In-111	10
Co-57	100	I-123	10
Co-58	10	I-125	1
Fe-59	10	I-131	1
Co-60	1	Yb-169	10
Ga-67	100	Hg-197	100
Se-75	10	Au-198	10
Sr-85	10	Tl-201	100

Surface Contamination Levels (dpm/100 cm²)

Area	P-32, Co-58, Fe-59, Co-60, Se-75, Sr-85, In-111, I-123, I-125, I-131, Yb-169, Au-198	Cr-51, Co-57, Ga-67, Tc-99m, Hg-197, Tl-201
Unrestricted & Personal Clothing	2,000	2,000
Restricted	20,000	20,000

EXHIBIT 10-REGULATORY GUIDE

Radioactive Spill Report

The spill occurred at ___:___am pm on ___-___-___ room ___

Instrument used to check for personnel contamination:

Meter model:____ Meter S/N____ Probe model ____ Probe S/N

Personnel Present	Personnel Contamination Results
_____	_____
_____	_____
_____	_____
_____	_____

*On the back of this sheet, indicate any personnel decontamination, additional monitoring, or care instituted.

SURVEY THE SPILL AREA TO IDENTIFY HOT SPOTS, THEN BEGIN DECONTAMINATION. WHEN FINISHED, CONDUCT POST CLEANING CONTAMINATION WIPE-TEST.

RADIOISOTOPES PRESENT OR SUSPECTED IN THE SPILL

_____mCi of _____as _____
_____mCi of _____as _____
_____mCi of _____as _____

Give a brief description of the accident _____

Give a brief description of follow-up actions taken to prevent recurrence

Name of person completing the report _____ Date _____
RSO notified on at _____ by whom _____

ATT 10.15

Procedures for Radiation Safety During Implant Therapy

1. The patient's room will be as far away from the nursing station and heavy traffic hallways as is consistent with good medical care. It will be a private room unless the dose rate at one meter from the implant meets the requirements in paragraph 20 1301of 10 CFR Part 20

2. If indicated by RSO, supply the nurses with film badges, TLDs, or pocket ionization chambers.

3. Brief the nurses on radiation safety precautions. Use the most current form for nursing instructions for therapeutic use of sealed sources. Allow time for questions and answers during the briefing

4. Brief the patient on radiation safety procedures for confinement to bed, visitor control, and other items as applicable consistent with good medical care

5. Only those persons needed for medical, safety, or training purposes should be present during the implant procedure

6. If applicable, mark a visitors' "safe line" on the floor with tape as far from the patient as possible

7. Following the implant, measure the exposure rate in mR/hr at bedside, at 1 meter from bedside, at the visitors' "safe line," and in the surrounding hallways and rooms (the last rates must conform to requirements in paragraph 20 1301). Record this and any other necessary information in the monitoring record

8. Do not release any patient who has received a temporary implant from the hospital until both a radiation survey of the patient and a count of implant sources confirm that all sources have been removed from the patient and are accounted for. Perform this check immediately after the removal of the sources. Keep a record confirming the source count and radiation survey in the monitoring record. For low activity seeds (less than 1 millicurie), use an individual seed to check the survey meter to be sure it will easily detect a seed that has not been removed or has been l[illegible]

9. Do not release any patient who has received a permanent implant from the hospital until the exposure rate from the patient is less than 5 mR/hr at 1 meter. Measure this exposure rate with an ionization-type survey meter at a distance of 1 meter from the umbilicus with the patient standing

ATT 10.15b

Nursing Care Instructions

PATIENTS RECEIVING INTERSTITIAL RADIATION THERAPY

1. If needles, capsules, radioactive seeds or ribbons become loose or fall out, do not try to replace them. Call Radiation Oncology (see next page). If a source falls out do not handle it directly: use forceps provided to transfer to a lead container provided for this purpose. Notify Radiation Oncology (see next page).

2. Each patient receiving interstitial treatment is to be assigned to either room 300 or 354. The patient should not be allowed outside the assigned space during the course of the treatment.

3. Signs will be placed on the door and the front of the patient's chart; this signs may be taken off only when the implant is removed.

4. When issued, film badges will be worn by the designated nursing personnel caring for the patient. Nursing personnel assisting the designate nurse may not require badging.

5. Time spent near the patient should be limited to the amount necessary for adequate nursing care. Always maintain the farthest practical distance from the patient during nursing care. Any special restrictions will be noted in the patient's chart. Private duty nurses remaining in the patient's room will be instructed by the doctor as to the distance to maintain when not performing any actual nursing procedures.

6. Surgical dressings and bandages should be changed only as directed by the radiation oncologist or the physician designated by him or her.

7. ___ Visitors are <u>not</u> allowed.
   ___ Adult visitors are allowed for 20 minutes per day as long as they shall sit or stand at the designated location.

8. Perineal care is not given during the radiation treatment of this area but the perineal pad may be changed when necessary. If the pad is changed, be sure the radioactive sources or source containers are not disturbed or loosened. Bag the soiled pad and place it in the trash container for monitoring before disposal.

9. During intracavitary therapy of the perineal area, once each shift, an inspection should be made of the perineal area to ensure that the applicator is still in place and that no sources have been dislodged. If there appears to be a problem contact radiation oncology (see below).

10. Patients undergoing intracavitary therapy of the perineal area are allowed to use bedpans. The excreta should be checked for dislodged sources and the perineal area should be examined to ensure that the applicator is still in place.

11. Instruments and containers used in handling radioactive sources do not become radioactive. These special instruments are used only to simplify handling and to maintain suitable distances between the hands and the sources. They also simplify the handling process.

12. No special precautions are needed for sputum, urine, vomitus, feces, dishes*, instruments, utensils, or bedding.

13. Hold all dirty linen, towels, sleepwear, etc. for inspection by the Radiation Oncology

14. The room must be monitored by Radiation Oncology before it can be release for other use.

15. The patient should not be discharged without notifying Radiation Oncology

16. Pregnant personnel are prohibited from working with this patient. This includes housekeeping, dietary, nursing, lab, or other personnel.

17. A portable shield is used at the bedside to provide protection during nursing care. Stay behind this shield as much as possible.

*FOOD TRAYS DO NOT NEED TO BE HELD IF THE PATIENT IS RECEIVING INTRACAVITARY TREATMENT OF THE PERINEAL AREA.

- CALL PROCEDURES -

Working Hours

Radiation Oncology 2164

After Hours

Page ..... PBX

The PBX Operator may Contact the

Radiation Oncology Personnel
Physician
Dosimetrist
Physicist

PBX WILL CONTACT THE RSO IN EMERGENCY SITUATIONS

JOHNSTON-WILLIS HOSPITAL

NURSING CARE INSTRUCTIONS
PATIENTS RECEIVING INTERNAL RADIATION TREATMENTS

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1) If cesium tubes, interstitial radioactive seeds or iridium ribbons become loose, DO NOT TRY TO REPLACE THEM. Call Radiation Oncology (see call procedures). If a source falls out, DO NOT HANDLE DIRECTLY: USE FORCEPS provided to transfer to lead container provided for this purpose. Notify Radiation Oncology (see call procedures).

2) Each patient receiving Radiation Therapy Treatment is to be assigned to either Room 300 or 354. The patient is not allowed outside the assigned room during the course of treatment.

3) Signs will be placed on the room door and the front of the patient's chart. A bracelet is also worn by the patient. These signs will be removed when the implant is removed from the patient.

4) Time spent near the patient should be limited to the amount necessary for adequate nursing care. Always maintain the farthest practical distance from the patient during nursing care. Any special restrictions should be noted in patient's chart. Private duty nurses remaining in the room will be instructed by the Doctor as to the distance to maintain when not performing any actual nursing procedures.

5) Surgical dressings and bandages should be changed only as directed by the Radiation Oncologist or Physician designated by him or her.

6) NO VISITORS ALLOWED

ADULT VISITORS ARE ALLOWED FOR 20 MINUTES PER DAY PER VISITOR

7) Perineal care is not given during Radiation treatment of this area, but perineal pad may be changed when necessary. If the pad is changed, be sure the Radioactive sources or source containers are not disturbed or loosened. Bag the soiled pad and place it in the trash container for monitoring before disposal.

Stamp with addressograph plate

8) During intracavitary therapy of the perineal area, once each shift, an inspection should be made of the perineal area to ensure that the applicator is still in place and that no sources have been dislodged. If there appears to be a problem, contact Radiation Oncology (see call procedures).

9) Patients undergoing intracavitary therapy of the perineal area are allowed to use bedpans. The excreta should be checked for dislodged sources and the perineal area should be examined to ensure that the applicator is still in place.

10) Instruments and container used in handling radioactive sources do not become radioactive. These special instruments are used to maintain distances between the hands and the radioactive sources. They also simplify the handling process.

11) No special precautions are needed for sputum, urine, vomitus, feces, dishes, instruments, utensils, or bedding.

12) Hold all dirty linen, towels, sleepwear, food trays*, and trash for inspection by Radiation Oncology.

13) The room must be monitored by Radiation Oncology before it can be released for other use.

14) The patient should not be discharged without notifying Radiation Oncology.

15) Pregnant personnel are prohibited from working with this patient. This included housekeeping, dietary, nursing, lab, or other personnel.

16) A portable shield is kept at the bedside to provide protection during nursing care. Stay behind this shield as much as possible.

*FOOD TRAYS DO NOT NEED TO BE HELD IF THE PATIENTS IS RECEIVING INTRACAVITARY TREATMENT OF THE PERINEAL AREA.

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ATT 11.1

Radioactive Waste Disposal Procedures

All radioactive materials with a physical half-life of less than 65 days will be held for decay-in-storage before being disposed of in the ordinary trash. The RSO will monitor radioactive waste disposal. The following procedures will be adhered to:

1. Hold all byproduct material for a minimum of ten half-lives

2. Monitor all waste at the surface of the container, with no interposed shielding, at the time of disposal, and determine that its radioactivity cannot be distinguished from background radiation levels. This will be done with a radiation detection survey meter set on the most sensitive scale.

3. Remove or obliterate all radiation labels

4. Separate and monitor all generator columns individually with all radiation shielding removed to ensure that it has decayed to background radiation levels

5. Make a record of the above steps including initial date placed into storage, radionuclides, general description of the materials, date of disposal, survey meter used, background reading, measured dose rate, ultimate disposition and the initials of the individual performing the survey.

Except for disposal by decay, as indicated above, all other radioactive waste materials will be transferred to a burial site or returned to the manufacture. All appropriate packaging requirements will be met and a copy of the consignment sheet from the transfer agent will be kept as a record