

DOCUMENT REVISION STATUS

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APPROVALS

APPROVED: PROCESS ENGINEERING: *Peter E. ...* DATE: 4/26/07

APPROVED: ENGINEERING MANAGER: *M. ...* DATE: 4/30/07

APPROVED: MANUFACTURING MANAGER: *R. ...* DATE: 4-30-07

APPROVED: QUALITY ASSURANCE MANAGER: *S. ...* DATE: 5/4/07

**1.0 PURPOSE:**

1.1 To provide general guidelines for the safe use and handling of radioactive materials.

**2.0 GENERAL GUIDELINES:**

In general the following are guidelines for the safe use and handling of radioactive materials.

- 2.1 Wear laboratory coats or other protective clothing at all times in areas where radioactive material is used.
- 2.2 Wear disposable gloves at all times while handling radioactive material.
- 2.3 Monitor hands, shoes, clothing and work surfaces with a low-level G-M survey instrument (if appropriate, for radionuclides in use) for contamination after each use of radioactive material or before leaving the restricted area.
- 2.4 Do not eat, drink, smoke or apply cosmetics in any area where radioactive material is stored or used.
- 2.5 Do not store food, drink or personal items in any area where radioactive material is stored or used.
- 2.6 Secure all areas where radionuclides are used/stored when unattended.
- 2.7 Wear whole-body personnel monitoring devices (film badge or TLD) at all times while in areas where radioactive material is used or stored if required by the regulations or the terms of your license. These must be worn at chest or waist level where the highest exposure is expected (outside of any lead aprons).
- 2.8 When required to wear film or TLD finger badges, they must be turned inward towards material.
- 2.9 Dispose of radioactive waste only in specially designated/labeled receptacles.
- 2.10 Store and label radioactive materials correctly.
- 2.11 Use alarms and interlocks, and post areas as required.
- 2.12 Never pipette by mouth.
- 2.13 Confine radioactive solutions in covered containers plainly identified and labeled with name of compound, radionuclide, date, activity and radiation level if applicable.
- 2.14 Always transport radioactive material in shielded containers with sufficient absorbent material.
- 2.15 Use absorbent material on countertops where radioactive material is used.
- 2.16 Use suitable ventilation systems when handling gases or volatile material.

**NOTE:** In addition to these general guidelines for safe use and handling of radioactive materials, Herley New England has specific procedures for restricted areas where radioactive materials are used.

### **3.0 METHODS FOR PROTECTION IN RESTRICTED AREAS:**

The following steps are to be taken as a precautionary method for the protection against radioactive material in restricted areas.

- 3.1 Entrance and exit of restricted areas are through the changing room only.
- 3.2 Lab coat, disposable boots and film badge are to be put on prior to entering Restricted Area (2) Pump Room.

**NOTE:** Film badges are monitored monthly for values. Any badges which are found to exceed the specified limits will be reported to the general manager, who will initiate an immediate investigation as to the cause of the condition and will take all necessary actions to prevent recurrence.

- 3.3 Before leaving restricted area remove boots and dispose in compactor.
- 3.4 Remove lab coat and film badge.

**NOTE:** All personnel, upon leaving restricted areas, must wash hands.

### **4.0 RESTRICTIONS AND REQUIREMENTS:**

#### **4.1 Entering Restricted Areas**

- 4.1.1 Only qualified personnel have access to Restricted Area (1) RA Room.
- 4.1.2 Prior to entering Restricted Area (1) RA Room; lab coat, disposable boots, film badge and disposable gloves must be worn.

#### **4.2 Leaving Restricted Areas**

- 4.2.1 Prior to leaving Restricted Area (1) RA Room secure all radioactive materials in safe.
- 4.2.2 Prior to leaving Restricted Area (1) RA Room wash all surfaces where tubes or vials may have been in contact.
- 4.2.3 Prior to leaving Restricted Area (1) RA Room dispose of paper products used to cover surfaces in compactor.
- 4.2.4 Upon leaving ensure door to restricted area is locked and secure.
- 4.2.5 Upon exiting room dispose of gloves in compactor.
- 4.2.6 Wipe/smear surveys are to be performed by the operator upon completion of loading RA material into tubes/vials.
- 4.2.7 Log quantity and type of material used into log book.
- 4.2.8 Log in wipe sample number in log book, date and initial.
- 4.2.9 Use calibrated survey meter to check hands, clothing, benches, etc. for contamination and enter into log.
- 4.2.10 Weekly wipe surveys will be performed by the RSO or the designee. This is in conjunction with an independent radiation consultant.



4.2.11 Wipe surveys will be performed on all surfaces indicated on the wipe survey map as follows:

- a. Weekly for restricted areas 1, 2 and waste room.
- b. Area surveys will also be conducted in non-restricted areas monthly.

This is performed to insure that radiation is being contained in restricted areas and not spreading. If the wipes show readings greater than >5000 DPM-Restricted Area/>1000 DPM Unrestricted Area, a decontamination of the area is conducted per P-504 and new wipes are taken for testing. The decontamination process is repeated until the wipe survey indicates an acceptable DPM level.

- c. Survey meter readings are taken once a week and recorded.