

## **PROCEDURE 1.7, RADIATION SAFETY TRAINING**

### **1.0 Purpose:**

This procedure provides instructions for scheduling, preparing, conducting, and evaluating radiation safety training and periodic retraining. The training addressed by this procedure includes generally applicable radiation safety training, commonly referred to as Part 1 (Radiation Safety Fundamentals) and Part 2 (Radiation Safety Program Practical Knowledge).

### **2.0 Scope:**

This procedure applies to basic Radiation Safety Training that is necessary to meet the training requirements of COMAR Part J. This procedure does not address job-specific training that may be necessary for the conduct of any individual's job and that may be administered by that individual's cognizant Department.

### **3.0 Procedure:**

- 3.1. EHS shall establish a periodic training schedule as necessary to meet the needs for initial radiation safety training and periodic retraining.
- 3.2. Individuals or their supervisors (e.g., Department Heads, Principal Investigators, Charge Nurses, RSO) shall notify EHS of the need to schedule new employees (or existing employees whose duties have changed to include occupational radiation exposure) for initial training by submitting a request for enrollment of the individual in the individual radiation monitoring program. Radiation Safety Training shall be provided for all individuals who may receive an occupational dose (total effective dose equivalent) exceeding 0.1 rem in a year [J.12(a)].
- 3.3. EHS shall determine the scope of training required for each new employee taking into consideration the individual's assigned activities during both normal and abnormal situations involving occupational radiation exposure that might be expected to occur [J.12(b)]. Typically, the required Radiation Safety Training will include Part 1, Radiation Safety Fundamentals, and Part 2, Radiation Safety Program Practical Knowledge.
- 3.4. EHS may exempt individuals from Part 1 Radiation Safety Training on a case-by-case basis as a result of a review of the individual's previous education and experience. Exceptions will be permitted based on documentation of significant previous education or training in health physics and/or experience with similar types of radiation safety programs. All exceptions shall be documented by EHS and approved by the RSO or his designee.
- 3.5. EHS shall prepare and maintain appropriate materials to ensure Radiation Safety Training addresses all necessary topics and prepares individuals adequately for

work with radiation and radioactive materials. At a minimum Radiation Safety Training shall address:

- Any means that might be used to inform individuals of the storage, transfer, or use of radiation or radioactive material [J.12(a)(1)];
  - The health protection problems associated with exposure to radiation or radioactive material [J.12(a)(2)];
  - The precautions or procedures to minimize exposure [J.12(a)(2)];
  - The purposes and functions of protective devices used at UMB [J.12(a)(2)];
  - Applicable provisions of COMAR regulations and UMB's radioactive material licenses addressing protection of personnel from radiation exposure, and their responsibility to comply with these requirements [J.12(a)(3)];
  - Individual responsibilities for promptly reporting to UMB any condition that may constitute, lead to, or cause a violation of the Atomic Energy Act, COMAR regulations, or UMB's radioactive material licenses or that may result in unnecessary exposure to radiation or radioactive material [J.12(a)(4)];
  - Appropriate responses to warnings (e.g., lights, alarms, verbal warnings) that may result from any unusual occurrence or malfunction that may involve exposure to radiation or radioactive material [J.12(a)(5)]; and
  - Radiation exposure reports that individuals may request [J.12(a)(6)].
- 3.6. In particular, Radiation Safety Training should address such issues as: (1) dose limits; (2) the ALARA concept; (3) UMB procedural requirements for control of radiation and radioactive materials; (4) responses to postings and labels; (5) requirements for records and reports; (6) applicable sections of UMB's Radiation Safety Program; and (7) individual rights and responsibilities as discussed in Sections J.14 – J.16 of COMAR.
- 3.7. EHS shall conduct Radiation Safety Training in accordance with the established schedule.
- 3.8. Training may be administered in a classroom environment or as computer-based training, as appropriate.
- 3.9. EHS may adjust the extent of the training provided commensurate with the radiological hazards to which individuals will be exposed and the complexity of the controls the individuals will be required to implement or observe. In all cases, the training shall be commensurate with the potential radiological health problems faced by the individual [J.12(b)].
- 3.10. Upon completion of training, EHS shall administer a written exam. The passing score that represents successful completion of the exam shall be no less than 70%. The RSO shall approve appropriate remedial action (e.g., re-examination, retraining) for individuals who do not achieve a passing score on the exam. EHS

may administer an oral exam to accommodate those with disabilities or other special needs.

- 3.11. Following successful completion of initial Radiation Safety Training, EHS shall enter each individual's name into an appropriate tracking system and provide notification to the individual of the schedule for periodic retraining.
- 3.12. EHS shall establish requirements for periodic refresher or retraining as necessary to maintain individual familiarity with program content and requirements.
- 3.13. EHS shall prepare for, conduct, and administer periodic retraining in a manner similar to initial training.

#### **4.0 Records and Reports:**

##### **4.1. Records**

4.1.1. EHS shall maintain required records in accordance with the requirements of Procedure 1.2, *Radiation Safety Records*.

4.1.2. EHS shall maintain the following records:

- Records of training materials used, including any course outlines, lesson plans, visual aids, and handouts;
- Records of examinations, answer keys, and completed individual examinations;
- Records of training exemptions issued to specific personnel and the bases for those exemptions;
- Records of attendance at the various scheduled classes; and
- Records of remedial actions taken in the event of exam failure and the results of those remedial actions.

##### **4.2 Reports**

None.

#### **5.0 References:**

COMAR, Section J.12  
UMB Radiation Safety Program  
Maryland Radioactive Material License MD-07-014-01  
USNRC Regulatory Guide 10.8, "Guide for the Preparation of Applications for Medical Use Programs"