University of Maryland, Baltimore

Radiation Safety Procedure

Procedure Number: 2.4

Title: Radiological Surveys

Revision Number: 0

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Technical Review and Approval:

_____ **Date:**_____
Radiation Safety Officer

Radiation Safety Committee Approval:

_____ **Date:**_____
Chair, Radiation Safety Committee

PROCEDURE 2.4, RADIOLOGICAL SURVEYS

1.0 PURPOSE:

This procedure establishes requirements for the frequency and conduct of radiological surveys within and adjacent to facilities that use, handle, or store radioactive materials in accordance with the UMB Radiation Safety Program.

2.0 SCOPE:

This procedure applies to all individuals who are authorized to use radioactive materials and/or conduct radiological surveys in accordance with the UMB Radiation Safety Program.

3.0 PROCEDURE:

3.1 General

3.1.1 The instruments used shall be suited to the measurement of the type, energy, and source of radiation expected to be encountered.

3.1.2 Each Authorized User of radioactive material is required to conduct periodic contamination surveys in those facilities where radioactive materials are present. A record of each survey must be maintained by the user.

3.1.3 Radiation dose measurements are required to be performed by Authorized Users in those instances where the exposure to the whole body may exceed 2 mrem/hr or exposure to the extremities may exceed the maximum permissible shallow-dose equivalent for that extremity.

3.1.4 The proper type of survey instrument shall be chosen, and measurements made at all points where exposure may occur. If the exposure is at the contact point, then the measurement point should be at the contact point. Conversely, if the exposure is at about 1m from the source, then the measurement point should be at 1m. The minimum limit of detection of the survey instrument should be 0.1 mrem/hr.

3.1.5 Areas having removable contamination levels in excess of 200 dpm/100 cm^2 should be decontaminated as soon as possible and resurveyed until removable contamination is below 200 dpm/100 cm^2. If any wipes indicated contamination in excess of 1,000 dpm, the areas should be immediately decontaminated and resurveyed until removable contamination is below 200 dpm/100 cm^2. Radiation Safety should be notified immediately if contamination exceeding 5,000 dpm is found.

3.2 Classification of Facilities

3.2.1 Individual circumstances vary widely with regard to maximum activity, physical and chemical form of radionuclides, and the applied procedures. Therefore a classification of facilities where radionuclides are used is necessary to determine how frequently they should be surveyed. Three levels of survey frequencies are designated based on the nature of the radionuclide, its activity and its use. The concept relies upon the principle that certain radionuclides are more hazardous than others, and thus require more frequent monitoring. Furthermore, each application is associated with certain risks, and so the nature of operation dictates the frequency of monitoring. Finally, the larger the quantity of a radionuclide, the more the need for frequent monitoring.

3.2.2 Radionuclide facilities should be reviewed periodically by the authorized user to determine if any factors have changed that would alter the assigned survey frequency. Any changes should be reported to EHS.

4.0 Records and Reports:

4.1 Records

4.1.1 Radiation safety records required by this procedure include records of radiological surveys

4.1.1 Radiation safety records shall be created and maintained consistent with the requirements of Procedure 1.2, *Radiation Safety Records*.

4.2 Reports

None.

5.0 References

Code of Maryland Regulations (COMAR) 26.12.01.01
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UMB Radiation Safety Program