

## DOSIMETRY PROGRAM

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(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

Dosimeters are used to detect and measure an individual's dose from external radiation. The dosimetry program allows Environmental Health and Safety (EHS) to track exposures and to take appropriate actions to maintain radiation doses As Low As Reasonably Achievable (ALARA).

### Personnel Requiring Dosimetry

- **Open Source:** radiation workers that use P-32, I-125, Se-75, Fe-59, Na-22, Cr-51, Cl-36 and Cu-64 are required to wear ring and whole-body dosimeters.
- **Sealed Source:** radiation workers that use sealed sources are typically required to wear whole-body dosimeters.
- **Neutron Gauge:** radiation workers that operate a neutron gauge are required to wear whole-body dosimeters.
- **Analytical X-ray:** radiation workers that operate analytical x-ray machines are required to wear ring and whole-body dosimeters.
- **Veterinary X-ray:** radiation workers that operate veterinary x-ray machines are required to wear whole-body dosimeters.
- **Human Use (Diagnostic) X-ray:** radiation workers that operate diagnostic x-ray machines are required to wear whole-body dosimeters.

**Note:** XPS, electron microscope, human use (dental) X-ray and open source H-3, C-14, P-33, Fe-55, Ca-45 and S-35 users are typically not required to wear dosimetry.

### Receiving Dosimetry

#### Whole-Body and Ring Dosimeters

Upon completion of appropriate radiation safety training, EHS will send dosimeters and training certificates to the designated department Badge Coordinator for pickup. To find out who your department's Badge Coordinator is, contact your department's administrative office, or EHS.

#### Fetal Dosimeters

Women who become pregnant may choose to participate in the fetal dosimetry program. Contact your department's Badge Coordinator or EHS and complete a Declaration of Pregnancy form. EHS will send fetal dosimeters to the Badge

Coordinator upon receipt of this form. **Note:** Contact EHS if an extension of dosimetry service is required after the month containing the baby's due date.

### Returning Radiation Workers

Personnel with previously terminated dosimetry service should contact EHS to update appropriate training records and reactivate dosimetry.

### **Wearing Dosimeter(s)**

Dosimeters should be worn when working with any appropriate radiation source. When the dosimeters are not worn, they should be stored in a place that is protected from radiation.

### Whole-Body

The whole-body dosimeters should be worn in the upper torso area between the waist and neck (such as on the collar or shirt pocket).

### Rings

The ring dosimeter should be worn on the index, middle, or ring finger of the dominant hand (hand most used during radioactive work). The ring should be turned so the label faces the source of radiation, and worn inside the gloves.

### Fetal

The fetal dosimeter should be worn on the abdomen to monitor radiation exposure to the fetus.

### **Dosimetry Exchange**

#### Whole Body and Ring Dosimeters

Every three months (March, June, September, December), dosimeters must be turned in to your department's Badge Coordinator. At this time, new dosimeter(s) for the next quarter will be distributed.

#### Fetal Dosimeters

Fetal dosimeters are exchanged monthly through the Badge Coordinator.

#### Research and Extension Center Gauge Users

Gauge users not located on the Lincoln campuses will not receive dosimetry from October to March unless the Authorized User makes a request to EHS, since gauges are typically not used during this period. If you need to use the gauge during this period, be sure to contact EHS to get dosimetry issued. Never operate a gauge without dosimetry.

## **Transferring Authorized Users**

### Non-Radioactive Authorized User to Radioactive Authorized User

Contact EHS to complete appropriate training requirements for work with radioactive isotopes.

### Radioactive Authorized User to Radioactive Authorized User

Contact either department's Badge Coordinator or EHS with the old and new Authorized User's information. This will allow appropriate dosimeters to be added or deactivated, personnel records to be transferred, and ensure receipt of future dosimeters.

### Radioactive Authorized User to Non-Radioactive Authorized User

Notify the Radioactive Authorized User's Badge Coordinator or EHS of the transfer and complete a Personnel Monitoring Service Termination Notice. Return all used and unused dosimeters to the Badge Coordinator for return to EHS. Note on the Termination Notice if you would like a Termination Report (Exposure History) sent and indicate the forwarding address.

## **Terminating Dosimetry Service**

### Fetal Dosimetry

Immediately contact EHS when fetal dosimetry is no longer required.

### Leaving UNL

When you no longer need a dosimeter or you are leaving UNL, contact your department's Badge Coordinator and complete a Personnel Monitoring Service Termination Notice. Return this and all used and unused dosimeters to the Badge Coordinator for return to EHS. Note on the Termination Notice if you would like a Termination Report (Exposure History) sent and indicate the forwarding address.