WELCOME KIT
ARE YOU AND YOUR EMPLOYEES SAFE?

Radiation exposure in the workplace must be accurately measured and monitored for protection of employees and employers alike.

For 25 years, Dosimetry Badge has been a privately held company offering high-quality radiation monitoring dosimeters, better known as x-ray badges, at low prices with no hidden fees. There’s a reason we’ve remained loyal to our mission and to each other—we believe in our work. We believe in being the invisible guardians of nurses, doctors, veterinarians, first responders, chiropractors, power plant employees and airport security screeners, their co-workers, and their surrounding communities. The people who use our products, the people we help keep safe, are the very people who keep us all safe. It’s noble work they do, and we take our portion of it, their safety, very seriously. At the end of the day, safety is why we’re in business.
COST EFFECTIVENESS
No Hidden Fees. No Surcharges.

HERE IS WHAT YOU CAN EXPECT FROM DOSIMETRY BADGE

☑ Access to in-house, customer care experts
☑ Access to Dosimetry Consultants 24 hours a day
☑ Access to Dosimetry Badge—Free on all of your electronic devices
☑ NO maintenance fees
☑ NO cancellation fees
☑ NO fees to add, delete or make changes to wearers between groups
☑ NO fees to track and ship badges in the middle of a wear cycle
☑ NO fees for duplicate copies of reports when generated through Dosimetry Badge
☑ NO fees for termination reports when generated through Dosimetry Badge
☑ NO fees for NRC-5 forms when generated through Dosimetry Badge
☑ NO fees for email notifications alerting customers of unreturned badges
HOW TO READ YOUR DOSIMETRY REPORT

Periodic reports are now just that. If you are looking for information on a "June dosimeter", you will find it on your June report. Regardless of the dosimeter return date.

When returned with your dosimeters, the control dosimeter lists values in the calculation of your assigned dose. YTD and Lifetime are not tracked as these values in themselves are not actual dose.

ND - indicates that your dosimeter was processed, but the dose is below our minimum reportable dose of 10 millirem.

NR - Indicates that the dosimeter does not monitor dose in that category.

Highlighted areas contain your assigned/effective dose for this report. It is representative of either a single dosimeter dose, the calculated dose of multiple dosimeters listed immediately underneath, or an Effective Dose Equivalent (EDE) calculation.

Users working in multiple groups should be tracked across all groups to ensure compliance to yearly exposure limits.

ALARA Notifications can now be found at the end of each report. If you have a specific ALARA limit you would like to have set for you, please contact a Customer Care Representative. We will be happy to make that adjustment for you.

Explanation of Notes
UNR UnReturned Badge

MultiGroup
The following wearers have been monitored in multiple wear groups. This section summarizes the results from all wear groups for each wearer.

PIN NAME
0001008 LEE LORETTA

ALARA Notifications
The following wearers have received a dose that exceeds an ALARA threshold. See the threshold values on the final page of this report.

PIN NAME THRESHOLD
0001021 GONZALES SUSAN Level I

Explanation of Notes
UNR UnReturned Badge
MONTHLY DOSIMETRY REPORT

<table>
<thead>
<tr>
<th>CURRENT DOSE (MILLIREM)</th>
<th>DOSE THIS YEAR (MILLIREM)</th>
<th>LIFETIME DOSE (MILLIREM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEU DEEP EYE SHALLOW</td>
<td>NEU DEEP EYE SHALLOW</td>
<td>NEU DEEP EYE SHALLOW</td>
</tr>
<tr>
<td>Control</td>
<td>NR ND ND ND</td>
<td>NR ND ND ND</td>
</tr>
<tr>
<td>Body dose</td>
<td>ND ND ND ND</td>
<td>ND ND ND ND</td>
</tr>
<tr>
<td>Extremity dose</td>
<td>ND ND ND ND</td>
<td>ND ND ND ND</td>
</tr>
<tr>
<td>Body dose</td>
<td>125 125 125 125 125 125 125</td>
<td>10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>Body dose</td>
<td>ND ND ND ND</td>
<td>ND ND ND ND</td>
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<tr>
<td>Body dose</td>
<td>ND ND ND ND</td>
<td>ND ND ND ND</td>
</tr>
<tr>
<td>Body dose</td>
<td>ND ND ND ND</td>
<td>SEE MULTIGROUP</td>
</tr>
<tr>
<td>Body dose</td>
<td>NR 10 10 10 10 10 10 10 10</td>
<td>NR 10 10 10 10 10 10</td>
</tr>
<tr>
<td>Body dose</td>
<td>NR 10 10 10 10 10 10 10 10</td>
<td>NR 10 10 10 10 10 10</td>
</tr>
</tbody>
</table>

Notes will be given an alpha or numeric code which is referenced at the end of the report for explanation. An example would this “UNR” used as unreturned.

<table>
<thead>
<tr>
<th>DOSE THIS YEAR (MILLIREM)</th>
<th>LIFETIME DOSE (MILLIREM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEU DEEP EYE SHALLOW</td>
<td>NEU DEEP EYE SHALLOW</td>
</tr>
<tr>
<td>Body dose</td>
<td>10 10 10 10 10 10 10 10 10</td>
</tr>
</tbody>
</table>

1. Dosimetry Badge assigned wearer identification number.
2. Employee name, area monitor location, or other reference designation.
3. Calculation methodology used for assigned dose computation.
4. Dosimeter Type:
   - 82 XBGN
   - 83 XBGN + Track Etch
   - 82W Wrist TLD XBGN
   - 82E Environmental TLD XBGN
   - 83E Environmental TLD XBGN + Track Etch
   - 05 Extremity ring
5. Location code - where on the body the dosimeter is worn:
   - Control (C) - Chest (CH) - Collar (CL) - Waist (WS)
   - Extremity E - Fetal Monitor (FM)
   - Right Hand (RU) - Left Hand (LU)
6. The wear period the dosimeter monitored.
7. Notes pertaining to the specific dosimeter.
9. Deep Dose Equivalent applies to external whole body exposure and is the dose equivalent at a tissue depth of 1 centimeter (1000 mg/cm²). Dose in millirem is reported for photon energies from approximately 10 keV to MeV. Neutron dose is included if applicable.
10. Eye Dose Equivalent applies to the external exposure to the lens of the eye and is the dose equivalent at a tissue depth of 0.3 centimeters (300 mg/cm²). It includes dose in millirem for beta particles and photons. Neutron dose is included if applicable.
11. Shallow Dose Equivalent applies to the external exposure of the skin or an extremity and is the dose equivalent at the tissue depth of 0.007 centimeters (7 mg/cm²) averaged over an area of 1 square centimeter. It includes dose in millirem for beta particles and photons. Extremity doses are reported in this column based on 662 keV photons unless other energy or radiation source information is available. Neutron dose is included if applicable.
12. Year to Date Cumulative Deep Dose. Neutron dose is included if applicable.
13. Year to Date Cumulative Deep Dose. Neutron dose is included if applicable.
14. Year to Date Cumulative Deep Dose. Neutron dose is included if applicable.
15. Lifetime Cumulative Deep Dose. Neutron dose is included if applicable.
16. Lifetime Cumulative Deep Dose. Neutron dose is included if applicable.
17. Lifetime Cumulative Deep Dose. Neutron dose is included if applicable.
MANAGE YOUR ACCOUNT YOUR WAY
Easy, Secure, Accessible

Every minute counts in your busy day. Dosimetry Badge, our online account management service, provides you an easy, mobile-friendly way to manage your dosimetry account 24 hours a day.

Dosimetry Badge operates on secure servers and uses SSL encryption, the same security that banks and brokerages use when providing internet access, to ensure all of your online information is protected.

Dosimetry Badge is accessible to all active customers and is provided completely free of charge.

**With Dosimetry Badge online access you can:**

- Track your account balance
- View and print statements
- View and print dose reports
- Create NRC-5 reports in minutes
- Add, delete or change wearers
- Create orders and track badge shipments
- Customize badge colors by department and locations
- Manage badge distribution and return dates
- Receive email notifications of badge shipments, unreturned badges, invoices and dose reports
CONTROL DOSIMETERS

Control dosimeters are used to measure exposure from non-occupational sources such as cosmic radiation, irradiation that may occur during badge shipment and natural radioactive material found in building materials and soil.

A complimentary control dosimeter is provided for each type of whole body badge (TLD, film, neutron, extremity) for each account. If all of your group badges are stored in the same area, one control for each whole badge type and wear period will suffice. However, if your account is split into groups, and badges are re-shipped to other locations, it is appropriate to have control dosimeters accompany those badges. Not having control dosimeters (for dosimeters that are re-shipped) may result in doses that do not represent the actual dose received by the individual(s) being monitored. For this purpose, additional control dosimeters may be purchased.

Control dosimeters should be stored in a location away from the radiation at your facility. Break rooms or reception areas are good examples of areas that are typically appropriate. Never store the control dosimeters in a lead box or safe. never issue a control dosimeter to an individual or use one as an area monitor.

The control dosimeter should be returned along with the dosimeters for the same wear period.

Proper use of the control badge is crucial for the accurate analysis of your personnel dosimeters and for assigning accurate dose results.

Below are the answers to frequently asked questions regarding control dosimeters.

What does it mean when my control dosimeter records a dose?
It is normal to receive dose on the control dosimeter. It represents the background and transit dose received on the badge from the time it left our facility and until it was returned. The dose recorded on a control dosimeter is usually low, and relatively constant from report to report. A control dosimeter will usually record a small dose (5-20 mrem per month).

What is the role of the measurement recorded on the control dosimeter in calculating occupational dose?
The dose recorded by a control dosimeter is measurement of the background dose received during shipment and storage. To obtain the occupational dose, the measurement recorded on the control dosimeter is subtracted from the doses recorded on the other badges in the group. The difference is the occupational dose.

What happens if I return my badges without the control dosimeter?
For badges returned without a control, the reported dose will include background and transit dose along with the occupational dose received by the individuals.

Upon receipt, I split up my badge shipment and send them to different facilities. What do I need to do regarding control dosimeters for these badges?
In these cases, it is suggested you purchase an additional control dosimeter for each group of badges that will be sent elsewhere and include a control dosimeter with each group of badges when they are shipped. To purchase additional control dosimeters contact Customer Care.
EXTERNAL OCCUPATIONAL DOSE LIMITS FOR PERSONNEL MONITORING

Personnel monitoring of occupational exposure to radiation is required by regulations when the employees may be receiving greater than ten percent of any applicable radiation dose limit. Personnel monitoring normally means the issuing of a dosimeter to an employee to track the dose received. It is often difficult to ensure that an employee has not exceeded the ten percent level under any foreseeable circumstances, therefore dosimeters are widely used. Film and thermoluminescent dosimeters are two devices commonly used for monitoring exposure. Either device, if worn and processed properly, is capable of providing an accurate assessment of the dose received from a variety of radiation sources.

Annual occupational dose limits (reference 10 CFR 20.1201, 20.1207, 20.1208) are established for different parts of the body as follows:

(All doses are in units of millirems (mrem) of dose that may be received in a calendar year)

<table>
<thead>
<tr>
<th>Description</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Body (Deep Dose Equivalent or DDE)</td>
<td>5,000 mrem</td>
</tr>
<tr>
<td>Lens of the Eye (Eye Dose Equivalent or EDE)</td>
<td>15,000 mrem</td>
</tr>
<tr>
<td>Skin (Shallow Dose Equivalent or SDE)</td>
<td>50,000 mrem</td>
</tr>
<tr>
<td>Extremities (Shallow Dose Equivalent or SDE)</td>
<td>50,000 mrem</td>
</tr>
<tr>
<td>Fetus of a Declared Pregnant Radiation Worker</td>
<td>500 mrem</td>
</tr>
<tr>
<td>Dose Limits for Minors</td>
<td>10% of adult limits</td>
</tr>
</tbody>
</table>

The “whole body” refers to the head and trunk of the body, including the arms above the elbows, the legs above the knees, and the reproductive organs. The “skin” refers to the skin anywhere on the body. The “extremities” refer to the arms below the elbow and legs below the knees. (Reference 10 CFR 20.1003)

Dosimetry reports provided by Dosimetry Badge provide the doses in units of millirem. When the dosimeter is worn on the body, a deep shallow, and eye dose will be reported. Deep dose is the measurement of external exposure received at a tissue depth of 1.0 centimeter, and is reported in columns 10 and 11 on our report. Shallow dose is the measurement of external exposure received at a tissue depth of 0.007 centimeters and is reported in column 13 on our report. Dose to the lens of the eye is the measurement of the exposure received at a tissue depth of 0.3 centimeters and is reported in column 12 on our report.

Extremity dose is monitored using ring or wrist dosimeters. Only a shallow dose measurement is provided for extremity monitoring and is reported in column 13 on our report.

Organizations using radiation sources are also required to control those sources so that no member of the public receives more than 100 millirem per year. Also, radiation doses in unrestricted areas may not exceed 2 mrem in any one hour. Dosimeters can be helpful in demonstrating compliance with these limits. Dosimeters used as “area monitors” are posted at fixed locations to monitor local area doses. Environmental dosimeters are sealed in weather-resistant packaging so they can be posted outside. (Reference 10 CFR 20.1302)

Occupational dose does not include the dose from natural background, medical or dental diagnosis, or medical therapy. For comparison, NCRP Report 93, 1987 shows that the average annual exposures to individuals to be 360 mrem from natural and manmade sources, including routine medical procedures. An individual will typically receive approximately 5 mrem of radiation exposure on a coast-to-coast airline flight, 8 to 20 mrem from a chest x-ray, 10 mrem from a dental x-ray, or 22 mrem from a cervical spine x-ray.

For information on regulatory requirements, refer to the Nuclear Regulatory Commission regulations in Title 10 of the Code of Federal Regulations, Part 20, of the radiation protection regulations of your state.