

Responsibilities Of Badge Users

1. Your radiation badge must be worn at all times when you are working with or in the vicinity of sources of ionizing radiation.
2. The badge reading is a legal record and must reflect occupational exposure only. Therefore the badge shall be worn only by the person to whom it was assigned, shall not be tampered with or experimentally irradiated, and shall not be used to measure any radiation exposure you may receive as a medical patient.
3. Monitoring badges are issued at monthly or quarterly exchange frequencies. Badges are distributed and collected by departmental badge representatives. It is your responsibility to exchange your badge on time with your badge representative.
4. Persons required to be badged must have complete records of their occupational exposure for the current year, i.e. no "gaps" are allowed in their personnel dosimetry records. If a badge is lost, a replacement badge must be obtained from the Environmental Health & Safety Department and a Missing Badge Report completed so that an estimated exposure may be assigned.
5. Badges should be worn on chest, collar, or belt so as to indicate "whole body" exposure. If a lead apron is worn the badge should be worn at collar level outside the apron so that exposure to the head is monitored.
6. Ring badges should ordinarily be worn on the palm side of the hand to best monitor the exposure received from handling radionuclides. If wearing gloves to prevent contamination to the hands, the ring badge should be worn *under* the gloves.
7. Do not leave badge in direct sunlight or near a source of heat. At the end of the work day badges should be left in a location where they will not be exposed to radiation.
8. If you work at locations outside Vanderbilt where you receive occupational exposure to radiation, you must be badged by all employers. Notify the Radiation Safety Officer at Vanderbilt and at the other locations. The maximum permissible occupational dose limits apply to the sum of the doses received at all locations.
9. Examine your personnel dosimetry reports on a regular basis to assure that your readings are ALARA (As Low As Reasonably Achievable).

LANDAUER®

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RADIATION DOSIMETRY REPORT

| ACCOUNT NO. | STRIPS CODE | AWD | REPORT DATE | DOSIMETER RECEIVED | REPORT TIME IN WORK DAYS | PAGE NO. |
|-------------|-------------|---------|-------------|--------------------|--------------------------|----------|
| 103702 | RAD | \$12345 | 7/17/98 | 7/13/98 | 5 | 1 |

| PARTICIPANT NUMBER | NAME | | | DOSIMETER | USE | RADIATION QUALITY | DOSE EQUIVALENT (MREM) FOR PERIODS SHOWN BELOW | | | QUARTERLY ACCUMULATED DOSE EQUIVALENT (MREM) | | | YEAR TO DATE DOSE EQUIVALENT (MREM) | | | LIFETIME DOSE EQUIVALENT (MREM) | | | RECORDS FOR YEAR | INCEPTION DATE (MM/YY) | |
|------------------------|-----------------|------------|----------|-----------|-----|-------------------|--|--|-------------|--|---------|-------------|-------------------------------------|---------|-------------|---------------------------------|---------|-------------|------------------|------------------------|------|
| | ID NUMBER | BIRTH DATE | SEX | | | | DEEP DDF | EYE LEF | SHALLOW SDF | DEEP DDF | EYE LEF | SHALLOW SDF | DEEP DDF | EYE LEF | SHALLOW SDF | DEEP DDF | EYE LEF | SHALLOW SDF | | | |
| FOR MONITORING PERIOD: | | | | | | | 6/ 1/1998 - 6/30/1998 | | | QTR 2 | | | 1998 | | | | | | | | |
| 00191 | ADDISON, JOHN | 335235519 | 08/31/44 | M | P | WHBODY | PN | 90 | 90 | 90 | 90 | 90 | 90 | 100 | 100 | 100 | 200 | 200 | 200 | 6 | 6/80 |
| | | | | | P | | PF | 60 | 60 | 60 | 60 | 60 | 60 | 70 | 70 | 70 | 170 | 170 | 170 | | |
| | | | | | P | | NF | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | | |
| 14839 | JORGENSEN, MIKE | 471740096 | 10/04/68 | M | P | WHBODY | IT | PARTIAL SHIELDING - NO EVALUATION POSSIBLE | | | 470 | | | 470 | | | 880 | | | 6 | 1/90 |
| 16784 | THOMAS, LEE | 384948378 | 11/22/64 | M | P | COLLAR | P | 40 | 40 | 40 | | | | | | | | | | | |
| | | | | | P | WAIST | | M | M | M | | | | M | 150 | 150 | 370 | 370 | 370 | 6 | 2/86 |
| | | | | | U | RFINGR | | M | 40 | 40 | M | 40 | 40 | | | 80 | | | 620 | 6 | 2/86 |
| | | | | | P | WAIST | | | | 50 | | | | 30 | 30 | 40 | 100 | 100 | 150 | 6 | 1/90 |
| 00901 | WALKER, JANE | 587336640 | 06/09/60 | F | | | | ABSENT | | | | | | | | | | | | | |
| 05061 | ZERR, ROBERT | 982448591 | 07/15/45 | M | P | WHBODY | | 40 | 40 | 40 | 160 | 160 | 160 | 200 | 200 | 200 | 240 | 240 | 240 | 6 | 6/80 |
| | | | | | | | | CALC | | | | | | | | | | | | | |

1. Within your account, each individual is identified by a unique number that is permanent.
2. Participant's personal information consisting of name, ID number, birth date, and sex. This information can be suppressed on "duplicate reports: for privacy and/or posting needs.
3. Landauer dosimeter.
4. The use or location on the body for which the dose is given.
5. Radiation type, and in some cases energy.
6. Dose Equivalent Columns – Current or accumulated exposures for deep, lens or eye and shallow dose equivalents. Bimonthly service will not have quarterly accumulation.

7. Number of times a current year report was generated for a participant.
8. The start of continuous Landauer service for a dosimeter.
9. Whole body exposures are carried for the person, rather than for individual whole body dosimeters. This example shows how a special dose calculation (EDE 1) can be applied to a participant who wears collar and waist dosimeters with a lead apron.
10. The dose for a dosimeter was from a calculation given by a customer, rather than from a Landauer dosimeter analysis.

Deep dose equivalent applies to external whole-body exposure and is the dose equivalent at a depth of 1 cm (1,000 mg/cm²).

Eye dose equivalent applies to external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 cm (300 mg/cm²).

Shallow dose equivalent applies to the external exposure of the skin or an extremity, and is taken as the dose equivalent at a tissue depth of 0.007 cm (7 mg/cm²) averaged over an area of one square centimeter.

Minimum Dose Equivalent Reported – Dose equivalents for the current monitoring period below the minimum reportable quantity are recorded as "M." The minimum reportable quantity depends on the dosimeter type and quality of radiation.

Notes – Messages explaining any abnormalities, comments, or imaging and reanalysis results will appear on a separate line below all dosimeter exposure information.