



## Radiation Exposure Report Explanation

**Explanation and Comments Concerning Your Landauer® Radiation Dosimetry Report**

**TYPE OF REPORT:** This refers to the use or location on the body for which the dose is given - e.g. whole body, extremity, etc.

**INSTRUMENT TYPE OR NUMBER:** This document lists Landauer dosimeters available, e.g. G for film badge or ring dose rate (crystal fiber) badge when in the method of calculating the exposure is a crystal instrument or film badge. For crystal instruments, source refers to the paper reviewing the instrument data.

**INSTRUMENT QUALITY:** The following codes are provided to identify the type and to indicate source, origin or location contributing to the dose equivalent. The combination of radiation type, instrument and use is provided.

**P:** A gamma ray exposure. P may be followed by an R in the beginning of a gamma ray exposure. For deep dose equivalent, R for respiratory organ, R for lens and R for eye. P may be followed by an R for respiratory organ, R for lens and R for eye.

**B:** Beta particle exposure.

**N:** Neutron exposure. It may be followed by an F for fast and intermediate energy neutrons or a T for thermal neutrons.

**DEEP, EYE AND SHALLOW DOSE EQUIVALENTS:** These dose equivalents apply to external whole-body exposures and to the dose equivalent of a tissue depth of 10 cm (deep), 0.075 cm (eye) and 0.007 cm (shallow) at the time of the exposure. The dose equivalent is a linear function of the dose equivalent. Radiation dose equivalent, which applies to the shallow equivalent of the dose, is a function of the dose rate. The dose equivalent is a linear function of the dose rate.

These requirements apply to exposures to a gamma ray source in a direct, non-attenuated or only slightly attenuated, field. For neutron exposures, the same rules apply to the dose rate and to the dose equivalent. These requirements do not apply to a diffraction experiment.

A normal requirement is a quarterly, then semi-annual and annual dose equivalent may need to be submitted to maintain performance against limits. Total reference dose equivalent to the sum of all dose equivalent exposures for shallow, deep, eye and shallow dose equivalent (for internal exposure).

**ACCUMULATED DOSE EQUIVALENT:** An accumulated dose report is the sum of the shallow or deep dose equivalent for shallow or deep dose equivalent exposures in a given monitoring period.

**GENERAL RADIATION EXPOSURE QUALITY**

Type of Instrument	Dose Rate
• Whole body (head & tail)	1 - average, total effective dose equivalent
• Whole body (head & tail)	2 - average, total effective dose equivalent
• Extremity	1 - average
• Eye	1 - average
• Eye	2 - average

• Based on Federal Regulations, 10 CFR 20.1010 (Code of Federal Regulations) and subject to many other conditions on Federal program activities and various other rules (e.g. for design, control, safety and other regulatory agencies may apply to different levels).

**USE OF CONTROLS:** CURRENT USE: A control instrument is considered with the program of dosimetry as it refers to the dosimetry instrument. Beams released during work and control of control of radiation dose rate during the work period. The control instrument reading is subtracted from the instrument reading of the control instrument. The control instrument is the same as the control instrument. The control instrument reading is subtracted from the instrument reading of the control instrument. The control instrument reading is subtracted from the instrument reading of the control instrument. The control instrument reading is subtracted from the instrument reading of the control instrument.

**MONITORING PERIODS:** REPORTED: Other exposures for the current monitoring period for the instrument reported to us are recorded as "P" for the monitoring period, opposite to the dosimeter type and quality of radiation. LANDAUER film and TLD dosimeters have a standard monitoring period of 90 days for gamma rays and 30 days for beta particles. For film badges, the exposure time is determined by the monitoring period of the instrument. For film badges, the exposure time is determined by the monitoring period of the instrument. For film badges, the exposure time is determined by the monitoring period of the instrument.

**DOSE EQUIVALENT READINGS:** Any badge readings are reported as a shallow dose rate for gamma rays. For beta particles, the dose rate is reported as a shallow dose rate. For alpha particles, the dose rate is reported as a shallow dose rate. For alpha particles, the dose rate is reported as a shallow dose rate. For alpha particles, the dose rate is reported as a shallow dose rate.

**REVISION DATE:** This refers to the beginning of the monitoring period. It is the date of the revision.

**LANDAUER**

1000 North J Street, Rockville, MD 20850-1000  
Telephone: (301) 761-7000 Fax: (301) 761-7000

Back of Dosimetry Report contains reference information and definitions.

**Participant's Name:** Name of user issued dosimetry.

**Participant Number:** Each person is identified by a permanent number.

**Body Location for Dosimeter or Dose:** Refers to the use or location of the dosimeter on the body for which the dose is reported.

**Landauer Dosimeter Type:** Landauer dosimeter used (G for Film Badge, P for Luxel, and U for Ring). Source refers to the method used in calculating the exposure.

**Radiation Type Contributing to Dose:** Codes: P, Gammas or X-Rays; B, Betas; N, Neutrons.

**Dosimeter Wear Date:** Time Period of dosimeter wear and use.

**Dose Equivalent Columns:** Current or Accumulated Exposures for deep, lens of the eye, and shallow dose equivalents.

NAME	PARTICIPANT NUMBER	TYPE OF RECORD	COMPARISON TYPE	AGENCY	EXPOSURE QUALITY	DOSE EQUIVALENT (REM)		
						DEEP	EYE	SHALLOW
FOR MONITORING PERIOD:						07/01/97	07/31/97	
DAVID KEVIN	30005	WH. BODY	G					
FOR MONITORING PERIOD:						06/01/97	06/30/97	
SHAFER JACOB	30160	WH. BODY	G					
SPERANZA PERRY	31004	WH. BODY	G					
FOR MONITORING PERIOD:						06/18/97	06/30/97	

**LANDAUER**  
 RADIATION DOSIMETRY REPORT  
 REPORT NO: 10/26/87  
 SUBJECT: 10/17/87  
 REPORT TO: 0  
 REPORT DATE: 87  
 QUALITY CONTROL: PASS  
 \*\* DUPLICATE \*\*  
 Accredited by the National Institute of Standards and Technology through  
**NVLAP**  
 Road: Glenwood Ridge EE425-1584  
 7000 Farming: 705/755-7016

ACCUMULATED DOSE EQUIVALENT (MREM)			ACCUMULATED DOSE EQUIVALENT (MREM)			RECEPTION DATE	LAST MONITORING RECORDS (YR)	# MONTHS	BIRTH DATE (MM/DD/YY)
DEEP	EYE	SHALLOW	DEEP	EYE	SHALLOW				
M	M	M	M	M	M	3/91	3/87	3	M
M	M	M	M	M	M	7/80	10/80	3	M
M	M	M	M	M	M	9/80	9/80	3	M
M	M	M	M	M	M				M

**Accumulated Dose :**  
 Accumulated Exposures for deep, lens of the eye, and shallow dose equivalents. \*Bi-monthly service does not have quarterly accumulation.

**Inception Date :**  
 The Date on which continuous dosimetry service began.

**Report Number :**  
 Number of dosimetry reports issued in the current year for the individual.

**Participant Personal Info :**  
 Personal ID Number, gender, and birth date for participant (info can be hidden upon request, as shown here).

<b>Definition of Terms:</b>	
<b>Deep Dose Equivalent:</b>	Applies to external whole-body exposure (at a tissue depth of 1cm).
<b>Dose Equivalent:</b>	The amount of radiation energy absorbed by human tissue.
<b>Eye Dose Equivalent:</b>	Applies to the external exposure of the lens of the eye (at a tissue depth of 0.3 cm).
<b>Minimum Dose Equivalent:</b>	Dose equivalents for the monitoring period which fall below the minimum reportable quantity (depends on dosimeter and radiation type) are reported as an "M".
<b>mrem:</b>	Refers to a unit of measure, "millirem", which measures the amount of dose to human tissue.
<b>Shallow Dose Equivalent:</b>	Applies to external exposure of the skin or an extremity (at a tissue depth of 0.7 cm and averaged over an area of 1 cm <sup>2</sup> ).