UNDERSTANDING REPORTS

Occupational radiation exposure reports are easy to read.

Have confidence knowing that each report you receive from Mirion Technologies Dosimetry Services Division will be processed to ensure the complete integrity of the results. Whether you require weekly, monthly or quarterly reports, rest assured that each one will provide complete and accurate information regarding radiation amounts, and individual exposure levels of each badge.

Each report provides the information needed to meet government regulations and lets you know that proper steps are being taken to ensure that your employees are not being exposed to harmful levels of radiation. All processing and service is performed at our state-of-the-art facility in Irvine, California.

Your badge data is stored in archival data retention vaults and is accessible for clients. With Mirion, you can always document the radiological safety of your office or operational environment and you will have the assurance that our dosimeters are keeping your employees safe.

OCCUPATIONAL RADIATION EXPOSURE REPORT FEATURES

- All personnel are listed by location
- The report includes the monitoring period, the dose equivalent for the current monitoring period, quarter to date, year to date and lifetime to date dose for each returned badge
TERMINOLOGY

The following technical terms are used in the dosimetry service industry.

ALARA: Acronym for “As Low As Reasonably Achievable”—Making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical and consistent with the purpose for which the licensed activity is undertaken.

CDE: Committed Dose Equivalent, HT, 50 (Internal) — Dose equivalent to organs to tissues of reference (T) that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

CEDE: Committed Effective Dose Equivalent, HE,50 (Internal) --- Sum of the products of the weighting factors, and committed dose equivalent to each of the body organs or tissues that are irradiated.

DDE: Deep Dose Equivalent, HP(10) --- Measurement in rem for dose equivalent at a tissue depth of 1 cm; applies to external whole body exposure.

Dose Equivalent, HT --- The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest.

Effective Dose Equivalent, HE --- Risk-weighted sum of products of dose equivalent to major body organs, or tissues that are irradiated.

External Dose: That portion of the dose equivalent received from radiation sources outside the body.

Extremity: Hand, elbow, arm below the elbow, foot, knee, leg below the knee.

LDE: Eye Dose Equivalent, HP(3) --- Measurement in rem for dose equivalent at a tissue depth of 0.3 cm; applies to the external exposure of the lens of the eye.

MilliSievert (mSv): Unit of equivalent dose and effective dose.

Occupational Dose --- Dose received by an individual in the course of employment in which the individual’s assigned duties involved exposure to radiation and/or to radioactive material. Occupational dose does not include dose received from background radiation, such as a patient from medical practices, from voluntary participation in medical research programs, or as a member of the general public.

PSE: Planned Special Exposures (Reg Guide 8.35) --- Restricted to special circumstances where dose cannot otherwise be avoided; permits doses separate from and in addition to the annual dose limits.

Dose Limits --- The permissible upper bounds of radiation doses.

REM: Roentgen Equivalent Man --- The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. “Unit of dose equivalent” (1 rem = 0.01 Sievert = 1,000 mrem)

SDE: Shallow Dose Equivalent, Extremity, HS --- Measurement in rem for dose equivalent at a tissue depth of 0.007 cm; applies to external exposure of an extremity.

SDE-WB: Shallow Dose Equivalent, Whole body, HP(0.07) --- Measurement in rem for dose equivalent at a tissue depth of 0.007 cm; applies to external exposure of whole body.

TEDE: Total Effective Dose Equivalent --- Sum of DDE (external exposure) and CEDE (internal exposure).

TODE: Total Organ Dose Equivalent --- Sum of DDE (external exposure) and CDE (internal exposure).

Whole Body: Head, trunk, arms above the elbow and legs above the knee.

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