



# Fact Sheet: **SOLDIER SYSTEMS PROGRAM MANAGEMENT**

## Thermoluminescent Dosimeter (TLD)

### What Is a Thermoluminescent Dosimeter (TLD)?

The TLD is a non-alarming, passive instrument used for measuring total whole body accumulated gamma radiation dose exposure for an individual.

When the TLD is exposed to ionizing radiation, it stores energy proportional to the amount of radiation to which it has been exposed. Later when the TLD is read, the radiation dose estimate is recorded and placed on the DND National Database.

The TLD contains no user serviceable parts and must not be opened.

### TLD Issue and Control

The TLD is issued to an individual and tracked using the individual's Service Number (SN). At the end of a specific time period, for example the completion of an operational deployment, the TLD must be returned through the unit to the issuing authority for reading. The TLD will be read by Health Canada National Dosimetry Services in Ottawa and an exposure report produced and a copy forwarded to DND. Once the TLD is read and the results are recorded, the TLD is available for reuse in future operational deployments.

Background Ionizing Radiation exists everywhere in the world caused by natural sources such as cosmic rays from the sun. After the TLD is read and zeroed it begins recording radiation immediately. Therefore, it is important to issue the TLDs to the individuals as soon as possible after they are received from Health Canada and to return them as soon as possible for reading at the end of operations.

Control TLDs are used by Health Canada to measure the Background Radiation in the area of operations. These control TLDs are placed in areas where multiple TLDs have been issued i.e. different camps throughout Bosnia. They are not issued to an individual but to an area and stored in a central location such as unit stores, away from all radioactive sources. These TLDs must be returned for reading at the same time as the areas TLDs are returned.



#### Specifications:

Detector	lithium fluoride (LiF)
Dose range	0.2mSv to 10 Sv
Energy Response	30keV to 3MeV
Operating Temperature	-50°C to 50°C
Dimensions	4.5 cm x 5 cm x 1 cm
Weight	22 grams
Effective date	July 1999
NSODs para 44 Nuclear Safety Orders and Directives	31 May 00

#### Stock Number:

TLD ..... L6665-31-620-0050

#### Contacts:

Equipment Supporter DSSPM 3-5 ..... (819) 997-1443  
Material Manager DSSPM 3-6 ..... (819) 997-9962  
National Dosimetry Services (Health Canada) ..... 1-800-261-6689