



परमाणु
ऊर्जा
नियामक
परिषद



Atomic
Energy
Regulatory
Board

भारत सरकार
GOVERNMENT OF INDIA

RADIOLOGICAL SAFETY DIVISION

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Head, RSD

AERB/RSD/2014/ 5079

May 13, 2014

TO WHOMSOEVER IT MAY CONCERN

Use and handling of radiation sources (radioactive material and radiation generating devices such as X-ray machines, accelerators, etc.) is increasing significantly in the country for societal benefits in multifarious applications in the field of medicine, industry, agriculture, research & training. Therefore, the radiation protection of occupational workers, members of the public and the environment is essential to ensure that the benefits from use of radiation sources outweigh the risk due to its hazard potentials. For ensuring occupational safety, it is a mandatory requirement according to the Atomic Energy (Radiation Protection) Rules {AE(RP)R}, 2004 that personal monitoring badges are provided to occupational workers (unless exempted) to monitor the dose received and ultimately to ensure that the prescribed dose limits do not exceed in accordance to set Rules. The Atomic Energy Regulatory Board (AERB), the office of the Competent Authority for radiation protection in the country, prescribes the dose limits for occupational workers and members of the public (www.aerb.gov.in). AERB has taken several steps to enhance the safe work practice for better radiation protection by implementing licensing policy, design & lay out approval of the facility & type approval of the radiation equipment, etc. The periodic regulatory inspections of radiation facilities are carried out by AERB to ensure that the terms and conditions of licence for possession of sources are duly complied with by radiation facilities.

To provide the personnel monitoring services (based on Thermo Luminescent Dosimetry systems developed by Bhabha Atomic Research Centre (BARC)) to occupational radiation workers in India, private laboratories have been accredited by the Radiological Physics and Advisory Division (RP&AD) of BARC. The accredited laboratories work under the supervision and guidance of RP&AD. Accurate and timely dose assessment of occupational workers require



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good work practices not only by these accredited Laboratories but also by the personnel of user institutions (worker/Radiation Safety Officer (RSO)/Head of Institution). Licensee/RSO/Head of the Institution is responsible to ensure the safety of the radiation workers. *However, there have been some instances, indicating lack or inadequacy of radiation protection practices and improper use of the TLD badges. AERB has taken a serious note of these lapses.* To prevent improper use of TLD badges, an instruction sheet on proper use of TLD badges is provided as Annexure to this letter.

If dose of occupational worker during the monitoring period exceeds 10 mSv, it is considered as the case of "Overexposure (OE)" and is referred by accredited lab to AERB for further investigation for its genuineness. For the investigation of OE cases, the Competent Authority, i.e. Chairman, AERB has constituted special committee consisting of experts in the relevant fields such as personnel monitoring, radiation protection specialists and medical experts.

It has been noted that the accredited laboratory had to stop very often the personnel monitoring service (PMS) due to non-payment of services charges to them. The operation of radiation facilities/sources without availing PM badges is the gross violation of the provisions of AE(RP)R 2004 and the concerned facility/radiation worker(s) shall be liable for punitive action as deemed fit against such institutions/radiation workers and prosecution under the relevant Acts and Rules.

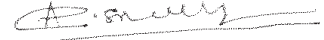
In the above context, it is re-emphasized that

- 1. Every radiation worker must wear his/her own TLD badge at the appropriate body location (Chest for chest badge, wrist for wrist badge) while working in the radiation area. He/she shall not share the TLD badge with any other worker. Merely using the card, without properly loading in the cassette, is not adequate and will be treated as non compliance of the requirement.*
- 2. When not in use, the TLD badge shall be kept along with the control badge at a designated place away from the radiation source. The control shall remain at the designated place for the monitoring period. The designated place for storage shall be away from the radiation area (x ray/radio-therapy/radiography rooms etc.).*
- 3. The TLD cards shall be replaced with a new one at the beginning of the following monitoring period. Used TLD card shall be returned to the service providing laboratory immediately after completion of the monitoring period. Institutions must follow proper procedure for use, loading and return of the TLD cards.*

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4. *Any unusual incidence related to exposure of the TLD card (such as loss/ misplacement/ inadvertently left in radiation area) etc. shall be reported promptly to the service providing Laboratory. The information shall be sent by RSO through the Head of institution while returning the used TLD card to the Laboratory.*
5. *Intimate abnormality such as "TLD left in 'X ray room', 'Tool box', 'near the camera/pit', 'X ray chest Stand', 'on machine couch', "TLD lost and found", "TLD used without cassette", "TLD used above lead apron" etc to the laboratory as well as Head RSD, AERB.*
6. *The user institutions must ensure uninterrupted personnel monitoring services all the time .*


(A.U. Sonawane)

Encl: Annexure-I

→ **For circulation to all radiation facilities through:**

**M/s Renetech Laboratories Pvt. Ltd.
C-106, Synthofine Industrial Estate, Off Aarey Road,
Goregaon(East), Mumbai-400063**

**M/s Avantttec Laboratory Pvt.Ltd.,
#76,7th Street Porur Garden,
Phase-1, Chennai-600095**

**M/s Ultra-Tech Laboratory Pvt. Ltd.,
Cloth Market, G.E.Road , Kumbhari
Bhilai, Dist.Durg.,C.G.-490042**

**Copy:
Head, RPAD, BARC**



भारत सरकार Government of India
परमाणु ऊर्जा नियामक परिषद् Atomic Energy Regulatory Board
विकिरण संरक्षा प्रभाग Radiological Safety Division

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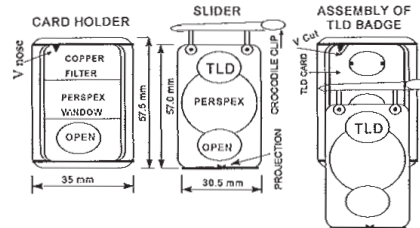
नियामक भवन/Niyamak Bhavan
अणुशक्तिनगर/Anushaktinagar
मुंबई / Mumbai-400094

Ref. No: AERB/RSD/14.33/2014

Date: 12-05-14

Guidelines for proper use of TLD badges

A) TLD cards shall be loaded in cassette before use as indicated.



B) Always wear proper TLD while working in the radiation field.

- Wear the chest TLD badge at chest level under the lead apron (if used) and wrist badges at wrist.
- Designate a person in the institution to co-ordinate TLD issue/return/storage etc.

C) Storage of TLDs

- Designate a place away from the radiation facility such as in RSO office /Head of Dept office/ film storage area etc for keeping individual TLDs during the monitoring period.
- Keep the packet of TLD badges on its receipt from the accredited TLD laboratory at the designated place.
- Survey the designated place for radiation level. Radiation at the designated place shall have normal background.
- Keep the control TLD at the designated place.
- **Keep individual TLD at the designated place after the working hour. At the start of the working hour TLD shall be collected from the designated place.**

D) Change of TLD card

- Change the TLD cards of each individual radiation worker with fresh TLD of the Individual on the first working day of the monitoring period. (*1st day of month for monthly monitoring, and 1st day of quarter for quarterly monitoring*).
- In case, TLDs are not received by the last working day of the previous monitoring period, contact the accredited TLD laboratory and inform Head, RP&AD, BARC /Head, RSD, AERB.

E) Return of TLDs

- Store the 'Used TLD' at the designated place with marking "**USED TLD**" till it is returned to the accredited TLD laboratory.
- Return the used TLD of all the individual of last monitoring period within a week of end of monitoring period to the laboratory.
- Intimate abnormality such as "TLD left in 'X ray room/radiation area', 'Tool box', 'near the camera/pit', 'X ray chest Stand', 'on machine couch', "TLD lost/misplaced and found", "TLD used without cassette", "TLD used above lead apron" etc to the accredited TLD laboratory as well as RP&AD, BARC / RSD, AERB. This intimation should be sent through Head of the Institution/RSO of the institution.
- In case of loss or damage of TLD/cassette, or without filter, get new TLD/cassette from the accredited TLD laboratory at the earliest.
- **Never take the TLD badge at your residence or other than designated place**

All radiation personnel are required to note carefully above instructions for due compliance so that proper use of TLD badges is ensured and your correct dose is estimated by TLD during the monitoring period. Radiological Safety Officer (RSO) of the institution shall ensure the display of above Guidelines at conspicuous location so that the same is read for compliance with by radiation personnel.



(A.U. Sonawane)
(Head, RSD, AERB)