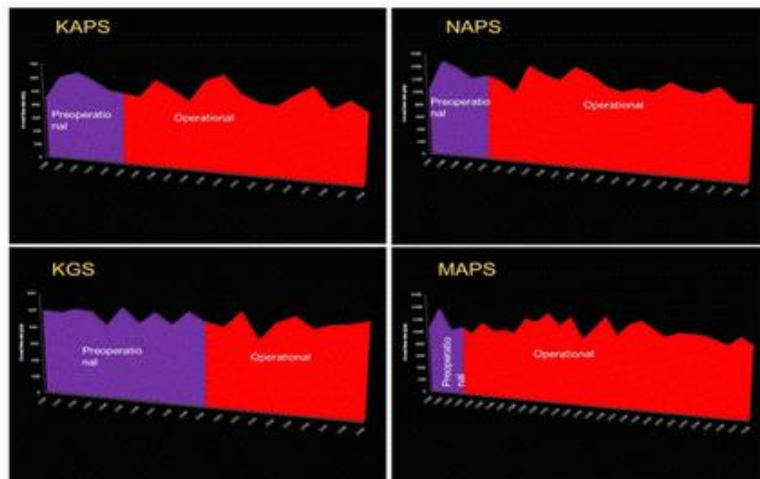


Nationwide Environmental Radiation Mapping using Thermo-luminescent Dosimeters

- External gamma exposure is mainly due to Cosmic rays, primordial radio nuclides and anthropogenic radioactivity, if any.
- Environmental gamma dose rates to be monitored are usually small; hence required long exposure time.
- Thermoluminescence dosimeters (TLD) offer a reliable and inexpensive tool for environmental radiation monitoring.
- Environmental gamma radiation monitoring is one of the important activities of any nuclear industry. It measures preoperational and operational natural radiation levels for assessment of build up, if any, of long term activity, due to operation of nuclear installations.
- Environmental gamma radiation monitoring around the nuclear installations in India is being carried out on quarterly basis using $\text{CaSO}_4 \cdot \text{Dy}$ based TLDs, since 1970s, to assess the environmental impact of Indian nuclear power programme.



Under this programme environmental gamma radiation monitoring, using thermo-luminescent dosimeters (TLDs) around all the nuclear installations in India is being carried out by EMAD. Over large areas the TLD-recorded radiation profiles can reflect the environmental gamma radioactivity distribution pattern and even seasonal variations in the radiation levels above ground may be delineated.