

Salute to Safety!

CLSI is committed to provide a safe and healthful working environment for all staff and to protect the general public and the environment from unacceptable risks.

Control Room:

Control-room management is an important part of ensuring personnel safety throughout the facility.

From the Control Room we monitor

- ✿ Personnel Safety Systems (PSS) - includes Fire Alarms System, Accelerator Access Interlock Systems, Oxygen Monitoring System
- ✿ Equipment Protection Systems (EPS) – includes beam position, size and quality, cooling/heating systems, vacuum systems, power supplies and magnet settings, timing systems, and valve controls
- ✿ Accelerator operators disable/enable all or individual beamlines including start and shutdown processes and select mode of accelerator operation such as normal (beam available to users) versus accelerator studies

In the case of an emergency the synchrotron can be shut down automatically in less than 20 milliseconds from the control room and from several other locations manually.

Radiation Safety

When dealing with sources of energy, there are safety concerns that must be addressed. Radiation is energy that comes from a source and travels through some material or through space. Light, heat and sound are types of radiation. There are many natural sources of radiation including the sun and various elements in the earth. Since CLS is a source of light radiation, thermo-luminescent detectors (TLDs) are used to record any possible radiation that escapes the shielding surrounding the rings and end stations. These are located in various locations around the facility as well as carried by personnel. The national limit from natural sources (background radiation) is 3 milli-Sieverts (mSv) per year. CLS measures very little above what is detectable in the background and is well within the annual regulatory limit imposed by the CNSC (Canadian Nuclear Safety Commission) which is 50 mSv - equivalent to approximately 500 chest X-rays per year.

Experiments and Safety

CLS will authorize an experiment to be conducted only after the activities associated with the experiment have been defined, hazards have been identified, and adequate hazard controls have been implemented. Once the proposals have met all applicable requirements, a permit is issued identifying engineering, and administrative controls and training requirements.