

## Basic Trained Personnel

Basic Trained Laser Personnel have met the minimum mandatory requirements for working around lasers at LIGO Livingston Observatory. Only individuals that have received Basic Laser Training are permitted in Laser Hazard areas, i.e. the LVEA and end station VEAs. **Basic Trained personnel may not escort visitors, operate lasers or manipulate laser beams.**

- Basic Trained Laser Personnel are usually required to have an Eye Examination.
- Basic Trained Laser Personnel must have viewed and understood the two Laser Safety Videos.
- Basic Trained Laser Personnel must understand the Hazards and the Personnel Protective Equipment associated with working around the LIGO laser systems.
- Basic Laser Trained Personnel must have read and understood the LIGO Livingston Observatory Laser Safety Plan and have a copy.
- Basic Laser Trained Personnel must know the LLO Emergency Procedures.
- Basic Trained Laser Personnel must have signed a copy of the **Basic Trained Laser Personnel Registration Form** and be listed on the LLO Laser Personnel webpage at > <http://www.ligo-la.caltech.edu/laser/>.

## Registered Laser Users

Registered Laser Personnel are persons needing to **work with lasers**.

- Registered Laser Personnel must have successfully completed the LIGO **Basic Laser Training**
- Registered Laser Safety Personnel must have read, understood and have been given a copy of the appropriate SOP governing the laser system they intend to use
- Registered Laser Personnel should assist the Laser Safety Officer in identifying any potential laser-related safety hazards.
- Registered Laser Personnel are responsible for conducting all activities in accordance with the approved **Standard Operating Procedure** and with all requirements of the **LIGO Livingston Observatory Laser Safety Plan**.
- Registered Laser Personnel are responsible for the laser safety of all personnel they escort into a Laser Control Area.(restricted access area)
- Registered Laser Personnel must be listed on the LLO Laser Personnel webpage at > <http://www.ligo-la.caltech.edu/laser/>.

## Visitors

- If a visitor is to enter a Laser Control Area (restricted access area) governed by an SOP, they must be escorted by a **Registered Laser User ONLY**. Visitors require the proper safety eyewear when required, and their acknowledgment that laser hazards exist.

## Eye Protection

The required protective eyewear for work with lasers is a pair of **LASER SAFETY GLASSES**, which must have an optical density (OD) of greater than 5.0 for 1064 nm wavelength radiation. Particular care must be taken to ensure that the **sideshields of the laser glasses are properly fitted to your face.**

**Plastic protective eyewear is designed for protection from diffuse scattered radiation, and does not provide sufficient protection to direct exposure of infrared beams.**

The output beams of the LIGO 10-W laser exit the vacuum envelope into the interior IOT/ISC table enclosures at **eye level** and extreme caution must be exercised by Registered Laser Users working in the table enclosures.



**These 2 types provide protection from a direct beam**



**These do not**