Safe Work Instruction - Laser Operation

DO NOT use this plant* unless you have been inducted in its safe use and operation by an Authorised Experienced Operator

This SWI may not cover all possible hazards and risks and should be referred to as a control measure in the risk assessment process. Additional training may be required for high risk plant. Site and task may change required PPE.

PERSONAL PROTECTIVE EQUIPMENT


Eye protection must be worn


Foot protection must be worn


High visibility clothing must worn

POTENTIAL HAZARDS AND RISKS

Electrical Shock or Burn
Burn injury from acute exposure to high power laser beams

Explosion
Explosion of gases, vapours or liquids

Slip, Trips, Falls
Slip, trip, fall due to electrical leads obstructing walkways

Other
Exposure to radiation

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Complete site specific risk assessment
- ✓ Complete visual inspection before operation
- ✓ Ensure you are familiar with plant operations and controls
- ✓ A copy of AS 2397 shall be kept on site or with the laser beam at all times
- ✓ Only trained Laser Safety Officers can use Class 2 or above laser
- ✓ Appropriate laser warning signs must be in place
- ✓ The laser category output intensity shall be checked by the operator and must be clearly marked on the laser
- ✓ Prior to using a laser pointer during a presentation, the laser warning slide shall be displayed

OPERATING PROCEDURES

- ✓ Ensure no person or animal is endangered when operating plant
- ✓ Where practical, use mechanical or electronic means to assist in laser alignment
- ✓ Special care must be taken when using magnifying ocular devices e.g. theodolite etc.
- ✓ Where practical the laser beam should be terminated at the end of its useful beam path
- ✓ Laser beams must be set up in accordance with AS 2397, well above or well below eye level
- ✓ The laser beam path must be controlled to prevent misdirected or reflected beams
- ✓ If an injury occurs, which is suspected to be due to a laser product, the Laser Safety Officer shall prepare a report of circumstances in accordance with AS 2397

ENDING OPERATIONS

- ✓ Ensure plant is in good working order and stored in a secure location to prevent unauthorised access of laser beam plant

DO NOT

- × Do not use if plant is faulty. Attach a DO NOT OPERATE tag and report fault to your supervisor
- × Do not look directly into the beam even when wearing eye protection
- × Do not allow reflective or shiny objects in or near the laser beam path
- × Do not track non targeted vehicles etc. This is strictly prohibited
- × Do not leave plant running unattended
- × Do not use mobile phone while operating plant

Description of Laser Classes

Class 1:
Laser that is safe under reasonably foreseeable conditions of operation, including the use of optical instruments for intrabeam viewing.

Class 1M:
Lasers emitting in the wavelength range from 302.5nm to 4000nm.

Class 2:
Lasers that emit visible radiation in the wavelength range from 400nm to 700nm.

Class 2M:
Lasers that emit visible radiation in the wavelength range from 400nm to 700nm. Viewing of the output may be more hazardous if the operator employs optics within the beam. Two conditions apply:

a) for diverging beams if the user places optical components within 100mm from the source to concentrate (collimate) the beam; or

b) for a collimated beam with a diameter larger than the diameter specified for the measurements of irradiance and radiant exposure.

Class 3R:
Lasers that emit in the wavelength range from 302.5nm to 10(6th power) nm where direct intrabeam viewing is potentially hazardous.

PTO

Class 3B:
Laser that is normally hazardous when direct intrabeam exposure occurs.

Class 4:
Lasers that are also capable of producing hazardous diffuse reflections may cause skin injuries and could also constitute a fire hazard, use requires extreme caution.

***Plant in this SWI refers to any machinery, equipment, appliance, container, implement and tool.**