

Laser Risk Assessment – a brief guide

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Note 1 Include a diagram of the laser set up showing where exposures are most likely;

Note 2 If there is a reasonably foreseeable risk of exposure assess the possible exposure and compare with exposure limits.

Append additional info as needed including any calculations, shielding material details and eyewear specification sheets.

Assessment Number: Assessed by (print and sign):		Assessment Date: Review Date:		Activity/Facility Assessed: Location:		
STEP 1		STEP 2	STEP 3			
List significant hazards <i>Consider, one at a time, the hazards from the laser equipment, beam delivery, laser process, environment and people</i>		List groups of people who are at risk	List existing controls	Are these controls OK?	What is the risk factor from these hazards? (Low/med/high?)	Actions Required (See over)
The Laser Equipment: <i>Consider hazards connected with the laser equipment: Everything from the aperture <u>backwards</u> e.g.</i> - Power supply - Cooling system - Controls - Interconnections – cables, water cooling		Students, staff, visitors, others	<i>Follow any manufacturer's/ suppliers instructions on any maintenance requirements and protective measures.</i> <i>Consider any additional control measures that may be needed, given the possible failures</i>	Yes or No?	Make a judgement	Decide what further actions are necessary if any
Beam Delivery: (Diagram – see note 1) <i>Consider <u>beam hazards</u> from aperture to point at which beam is used via:</i> <i>Free air – Optical components – Beam tubes – Optical fibres</i> <i>Consider levels of exposure to:</i> - direct and scattered radiation - short term and long term effects. (Exposure assessment – see note 2) <i>Also consider multiple lasers and other laser and/or UV sources used in the area if applicable.</i>		Students, staff, visitors, others	<i>Follow the hierarchy of control measures:</i> 1. Apply engineering controls first as far as possible 2. Then apply administrative controls and 3. Personal protective equipment if necessary <i>What are people currently relying on for safety? E.g. enclosures, barriers, safe working instructions, training, local rules, eyewear, (luck?)...etc. Consider any available alternatives in both equipment and control measures.</i>	Yes or No?	Make a judgement	Decide what further actions are necessary if any
The Laser Process: Consider the hazards from the process <i>Examples of laser processes:</i> - experiments looking at scattered radiation - laser used in materials processing - laser used as light source <i>Consider other hazards from the process e.g. collateral radiation, fume, heat, fire</i>		Students, staff, visitors, others	<i>As above</i> <i>Also refer to other relevant info – for example COSHH information</i>	Yes or No?	Make a judgement	Decide what further actions are necessary if any
Environment & People: <i>How do the environment and people affect the safety of the application and vice versa</i> <i>Consider people with particular sensitivity e.g. pulsed lasers, flickering light may affect those with epilepsy; known sensitivity to UV, or if working with known sensitising agents.</i> <i>Consider other hazards – lighting, ergonomics, lone working etc</i>		Students, staff, visitors, others	As above	Yes or No?	Make a judgement	Decide what further actions are necessary if any

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Significant Hazards Identified	Actions Required	Date for Action	Completed By (Name and Date)
<i>Where further actions are needed, what still needs to be addressed?</i>	<i>List any further actions necessary - prioritise in order of importance</i>	<i>Agree a reasonable timeframe</i>	<i>Sign when completed</i>
The Laser Equipment:			
Beam Delivery:			
The Laser Process:			
Environment & People:			