**Budget Unit:**  **Research Group:**  **Laboratory #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Laser Safety Officer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Manufacture: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Model #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Intended Purpose: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

# **HOW TO USE THESE CHECKLIST**

1. Complete each relevant checklist by placing a tick in the appropriate box next to each checklist item (**C**=**C**ompliant, **NC**=**N**ot **C**ompliant, **NA**=**N**ot **A**pplicable).
2. Forward a copy of each completed checklist to the laser safety officer.
3. Forward a copy of each completed checklist to the WEG.

**Laser Classification:**

* Class 1
* Class 2
* Class 3A
* Class 3B
* Class 3B(R)
* Class 4

Are there any modifications that may affect classification? *Yes No*

Comment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Laser**

Is the laser?

* *Fixed*
* *Mobile*
* *A part of*

**Specification:**

* + *CW* or *Pulsed* (repetition frequency \_\_\_\_\_\_ Hz) or *pulse duration\** (\_\_\_\_ s)
  + Wavelength*\**, or wavelength range (nm): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Max operating - Output power*\** (W):
  + Energy (J):
  + Beam irradiance (W/cm2):
  + Radiant exposure (J/cm2):
  + Emergent Beam diameter (mm):
  + Beam divergence (mrad):
  + Hazard range (calculated, m): or *> 5 m*

\*These values should be on the label.

**Is the laser suitable for its intended purpose? *Yes No***

**Is the Laser equipment compliant with AS/NZS IEC 60825.1: 2014? *Yes No***

**The Laser System**

**Checklist 1: Administrative controls**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **C** | **NC** | **NA** | **Comment** |
| Is instruction manual available? |  |  |  |  |
| Labelling/Warning signs on -  Instrument (i.e. class label)  Access panels  Apertures  Service entry label |  |  |  |  |
| Remote operation |  |  |  |  |
| Good housekeeping |  |  |  |  |

**Checklist2: Operational Controls**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **C** | **NC** | **NA** | **Comment** |
| Is protective housing/enclosure present for class 3A, 3B and/or 4 Lasers? |  |  |  |  |
| Interlocks for class 3B or 4 Lasers   * Emergency master disconnect interlock, or * Door interlock, or * Fixture interlock or * Momentary override switch to shut down the *laser power* or stop   *Beam path*. |  |  |  |  |
| Is key operated master control present for class 3B and/or 4 lasers? |  |  |  |  |
| Audible or Visible ON indicator located for class 3B and/or 4 lasers. |  |  |  |  |
| Emission indicator/warming sign located for class 3A, 3B and/or 4 lasers. |  |  |  |  |
| Is access panel cabinet interlock for class 3A, 3B and/or 4 lasers? |  |  |  |  |
| Is remote control connector located for class 3B and/or 4 lasers? |  |  |  |  |

**Is the laser equipment compliant? Yes No**

**Checklist3: Beam Path**

1. Beam Path is:

* Fixed
* Mobile
* Fully enclosed
* Partially enclosed
* Fully open/ accessible.
* Terminated at the end of useful path Yes No

1. Beam Height \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (m) above floor.
2. Beam Stop characteristics appropriate for class 3B and/or 4 lasers:

* Experiment
* Fire resistance
* Diffuse
* Low reflectivity

1. Is target enclosed for class 3A, 3B and/or 4 lasers?

* Yes
* No

1. Is laser beam adequately controlled?

* Yes
* No

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **C** | **NC** | **NA** | **Comment** |
| Side shields, table shields with a non-shiny surface installed for class 3A, 3B and/or 4 lasers. |  |  |  |  |
| Rigid mounting of laser head, lenses, beam stops installed for class 3A, 3B and/or 4 lasers are:   * + Mirrors, beam splitters etc   + *Or* strictly controlled movement   + *Or* scanning safeguards |  |  |  |  |
| Beam Shutter, attenuator and/ or collimator in system installed for class 3A, 3B and/or 4 lasers. |  |  |  |  |
| Lenses used to expand beam to a safe level *Beam* stop installed for class 3A, 3B and/or 4 lasers. |  |  |  |  |

General comments:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Risk Assessment**:

Based on the above checklist, what is the overall risk of injury to **users** and **bystanders**?

* Low
* Moderate
* High
* Extreme

High or Extreme risk system or equipment MUST have an appropriate approval as per ANU risk approval process (Chapter 3.1 of WHSMS handbook).

Auditor’s name: Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_