University of Waterloo – Laser Risk Assessment

# Laser Safety Contacts

|  |  |  |  |
| --- | --- | --- | --- |
| **General** | | | |
| Dept: |  | Date: |  |
| Procedure: |  | Revision #: |  |
| Principle Investigator: |  | PI Phone: |  |
| PI Signature: |  | | |

\*Notify the Laser Safety Officer of all laser-related injuries and near-misses ASAP

# Laser Description

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Manufacturer** | **Model** | **Serial No.** | **Class** | **Location** |
|  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Wavelength (nm)** | **Beam Diameter (mm)** | **Beam Divergence (mRad)** |
|  |  |  |
| **Continuous Power (W)** | **Single Pulse Energy (J)** | **Single Pulse Length (s)** |
|  |  |  |
| **Pulse Length (s)** | **Pulse Energy (J)** | **Pulse Rate (Hz)** |
|  |  |  |

# Laser Safety Program

See the Laser Safety Program at <https://uwaterloo.ca/safety-office/laboratory-safety/lasers> for:

* Responsibilities of the laser operator, and Laser Safety Officer
* Laser Registration Requirements
* Training Requirements
* Sign and Labeling Requirements
* Eyewear Requirements

# Safety Systems

4.1 Describe interlocks and emergency shut offs in system.

4.2 Describe how access to the laser is controlled.

4.3 Is the laser CSA or ESA approved? Provide details of certification (CE is not equivalent).

# Hazards & Controls

|  |  |  |
| --- | --- | --- |
| **HAZARDS AND CONTROLS** | | |
| **Check if applicable** | **Hazard** | **Control(s)** |
|  | High Voltage (>220V) |  |
|  | Exposed Electrical Components |  |
|  | Unenclosed Beam/Access to Beam |  |
|  | Fumes/Vapors |  |
|  | Laser not in the visible spectrum |  |
|  | Hazardous Chemicals/Wastes |  |
|  | Housekeeping |  |
|  | Reflective Material near the Beam Path |  |
|  | Laser at eye level of person sitting or standing |  |
|  | Unsecured optical devices |  |
|  | No Access to Manual |  |
|  | Laser is in a shared area with other research groups |  |
|  | Tripping hazards present (e.g Cords, Wires, ect.) |  |
|  |  |  |
|  |  |  |

# Personal Protective Equipment

## Eyewear

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **… For this laser** | | **…Wear this eyewear** | | |
| Operating Description | Wavelength (nm) of Laser | Wavelength attenuated (nm) | Optical Density (OD) | Remarks |
| e.g. Full Power | 10,600 | 10,600 | At least 3.5 | Glendale – white frames |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Other Protective Equipment Required in This Area:

|  |  |  |
| --- | --- | --- |
| **Item (what)** | **Located (where)** | **Must be worn (when)** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Operating Procedures

Attach safe operating procedures including alignment procedures.

# Training

All operators must complete the online Laser Safety (SO1066), complete and document site-specific laser training.

This procedure shall be read and signed by all persons who use lasers listed in this SOP.

# Procedure Review

This procedure shall be reviewed annually by the author to ensure it reflects the most current conditions.

# Operator Review

I have read this risk assessment and understand its contents

|  |  |  |
| --- | --- | --- |
| **Name (print)** | **Signature** | **Date** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Record of Revisions

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Author/Editor** | **Change** | **Version** |
| Date | NAME | * NEW | V1 |