30 East Campus Mall Madison, WI 53715
Phone: 608-265-5000 | Fax: 608-262-6767 | www.ehs.wisc.edu/

Permit Holder: _____

Laser Class:	☐ Class 3B ☐ Class 4
Manufacturer	
Model	

LASER SAFETY CONTACT FOR YOUR LAB

Name	
Phone	
Email	

1. LASER SAFETY GENERAL CAMPUS POLICIES

Responsibilities of the laser operator(s):

Operator will ensure the safety of any personnel that might enter the room and will advise same of the status of the lasers and optics. This includes ensuring use of protective protective eye wear where necessary.
The laser user is responsible for the safe of the laser(s) at all times.
Incidents/accidents will be reported promptly to EH&S @ (608) 265-5000. Emergency response: 9-1-1

Laser Training Requirements: Part 1 of the training involves review the EH&S online Laser Safety Training. The Principal Investigator is responsible for providing instruction in the safe and appropriate use of the laser related to the specific research project, which constitutes Part 2 of the training.

Laser Registration Requirements: EH&S must be notified after the purchase any class 3B or 4 lasers through the online Laser Registration Form.

Device label(s), door placard(s) and exterior light installed.

Personnel Protective Equipment Requirements: EHS will review the laser application/SOP. Typically, protective eyewear will be required. Other protective equipment may also be needed. This will be evaluated on a case by case basis. Users are responsible for purchasing and using prescribed protective equipment.

Disposal Requirements: EHS requires proper disposal of all class 3B and 4 lasers. The laser may contain toxic or hazardous materials which require proper disposal. Use the EHS Laser Disposal Form to begin the disposal process.

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2. OPERATING PROCEDURES (add additional information based on your usage parameters)

- Remove jewelry that might reflect beams.
- Use appropriate eyewear. Be certain it is of appropriate OD for the wavelength(s) in use.
- Turn on outside warning light.
- Inspect optical setup for recent changes/and or foreign objects.
- Verify that all personnel in lthe lab are wearing approved eyewear.
- Issue verbal warning prior to starting laser.
- Power up laser controller.

Comments

3. ALIGNMENT PROCEDURES

Special alignment procedures:

- Use low power alignment laser, when possible.
- Use lowest possible energy setting.
- Survey area (with UV/IR viewer, if necessary) for reflections and confine such reflections to the optics table.

Only after completing these procedures the laser power shall be increased to desired power and repetition rate. If more than one person is present, announce increase in power so that all present in the vicinity are aware of the change.

Other safety tips:

- Allow only trained personnel to be present during alignment. Whenever possible, minimize the number of personnel present . All present must wear appropriate eyewear.
- If possible, avoid using beam paths that are at sitting or standing eye level.
- Where feasible, use low power (class 2 or 3A) visible lasers to simulate the path of high power or invisible lasers.
- Where feasible, terminate laser beams and specular reflections on diffuse reflecting beam blocks.
- Use phosphor cards, IR viewers, video cameras or other display devices to locate invisible beams.
- Locate any specular reflections of the beam and block them as close to the source as possible.
- Whenever possible, reduce all high-power laser beams to the minimum possible power.
- Use beam shutters to block high power beams any time they are not actually needed.

***Note*:** It is sometimes necessary to align, clean or otherwise maintain the internal components of a laser. If this is so for this laser, please attach a procedure for this process as an addendum. Describe how you will perform this work in a safe manner. If this is performed by a vendor, please indicate so.

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4. CONTROL MEASURES

Click if valid	CONTROL	COMMENTS
☐	Entryway (door) light or controls	
☐	Laser enclosure interlocks	
☐	Laser housing interlocks	
☐	Emergency STOP	
☐	Master switch (operated by key or code)	
☐	Laser secured to base	
☐	Beam stops/ beam attenuators	
☐	Protective barriers	
☐	Warning signs	
☐	Reference to equipment manual	
☐	Required PPE and eyewear available	

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HAZARDS AND CONTROLS CHECKLIST		
Click if valid	HAZARD	CONTROL MEASURES IMPLEMENTED
☐	Unenclosed beam/ access to direct or scattered light	
☐	Laser at eye level of person sitting or standing	
☐	Ultraviolet radiation/Blue light exposure	
☐	Reflective material in beam path	
☐	Hazardous materials/waste (dyes, solvents, other)	
☐	Fumes/Vapors	
☐	Electrical	
☐	Capacitors	
☐	Compressed gasses	
☐	Fire	
☐	Trip Hazard	

Comments

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A. Eyewear - Please see the Laser Registration Form for Laser Protective Eyewear

EHS Comments: Review the registration and be certain you have selected eyewear of appropriate OD (optical density) for the wavelength and power levels. Users are responsible for selection, purchase and appropriate use of eyewear.

B. Other protective equipment required within the Nominal Hazard Zone

ITEM	LOCATION	USAGE CONDITION

6. LASER LAYOUT

Attach a diagram of area layout including beam path (as applicable) as well as a digital photograph of all Class 4 lasers in the lab.

OPERATOR REVIEW:

I have read and understood this procedure, its content, the EHS review below and attached addendum(s).
I agree to follow this procedure each time I use the laser/laser system. **Please read any addendums to this SOP prior to signing.**

Name	Signature	Date

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EHS review:

Reviewed by (EHS)

Name:

Title:

Date: