EHS Laser Standard Operating Procedure (SOP)

Each registered laser must have a Standard Operating Procedure (SOP) reflecting your current use to safely collect research data.

In the following sections, you will describe your procedures that avoid or mitigate laser safety hazards for both beam and non-beam hazards.

Upload this SOP into the Documents tab for your lab in the EHS Safety Management System (SMS).

You must train all users to your SOP.

**General Information**

1. Describe the purpose of this laser for your current research.
2. What was the approximate cost of this laser?
3. How many people will be using this laser?

**Beam Hazards**

The following address beam hazard controls from potential direct or reflected beam exposure.

1. What are your start-up and shut-down protocols?

Alignment can be one of the highest risk activities. Consider these guidelines when developing your protocol:

* Minimize the number and only use trained users
* Plan the intended optical path and place optics in their approximate positions prior to laser use.
* Assure users wear proper eyewear and other personal protective equipment
* Remove specular reflecting surfaces.
* Use the lowest power practicable during alignment.
* Use coaxial low power laser beam when possible.
* Use laser cards or paper, viewers or camera to locate invisible beams.
* Assure appropriate beam stops.

1. What are your alignment protocols?
2. What laser eyewear (wavelength and Optical Density) is required? When available, choose the higher visible light transmission (VLT) eyewear.
3. Do you have enough eyewear for all users?
4. Where is the eyewear storage location?
5. Describe how your laser incorporates interlocks. You should maintain a log of at least monthly checks on proper interlock function.
6. What are skin hazards associated with this laser? How are you controlling them?

**Non-beam hazards**

1. Do you use fiber optics? If so, describe use, cutting, and disposal.
2. Does your laser generate air contaminants (smoke, vapors, particles, etc.)? If so, how do you eliminate exposure to users’ breathing zones?
3. What potential electrical hazards exist and how are you controlling them?
4. Does your laser require use of compressed gases in cylinders? If so, how are you preventing leakage?
5. Does your laser require a gaseous mixture with fluorine?
6. What other steps have you taken to reduce both beam and non-beam hazards?

**Additional Information**

Please provide or reference additional information you use to controls laser hazards.