

Appendix A

ACCEPTABLE TRAINING AND EXPERIENCE FOR USERS OF LASER SYSTEMS

In order to create a safe working environment Laboratory Safety provides comprehensive laser safety training to all individuals working with Class 3b or 4 laser systems. The following areas will serve as the foundation of instruction for users routinely working with or around lasers:

- Fundamentals of laser operation - understanding the physical properties of lasers, construction of laser housing units, types of wavelengths, pulse shapes, modes, power/energy, laser terminology.
- Bio-effects of laser radiation on the eye and skin – understanding the MPE guidelines and inherent biological dangers of laser exposure.
- Significance of specular and diffuse reflections.
- Non-beam hazards of lasers.
 - Laser dyes and solvents – inherent hazards, proper handling and preparation, MSDS.
 - Fire and explosion hazards.
 - Optical fiber and ultraviolet hazards.
- Ionizing radiation hazards – principals of ionizing radiation.
- Laser and laser system classifications – differences between Class 2, 3a, 3b, and 4 lasers.
- Control measures – eye and skin protection, protective barriers and curtains, warning signs, laser safety training, LSO, interlocking mechanisms.
- Overall responsibilities of management and employee – training, monitoring, audits, tracking usage and equipment.
- Medical surveillance practices – baseline eye examination: ocular history, Amsler Grid test, and visual acuity.
- Laser dyes and solvents – inherent hazards, proper handling and preparation, MSDS.

All primary operators of laser systems will need to complete the laser safety class provided by Laboratory Safety. Existing users and new personnel will have to satisfy training requirements by enrolling in this brief course tailored for Class 3b and 4 lasers. Upon successful completion, an annual refresher class will be required that is to be conducted by the Principle Investigator.