

## **Laser Pointer Safety Guidelines**

As a part of the overall University Laser Safety policy, the following guidelines have been established for the use of laser pointers. Please see that anyone in your department or office who uses or may use a laser pointer in the classroom, laboratory or meeting room is provided with a copy of these guidelines. This includes all Fresno State employees and any off-campus visitors.

If you have any questions please feel free to contact Ronald A. Avedisian, Laser Safety Officer, Environmental Health and Safety, 2311 E Barstow Ave., M/S PO 14, Fresno, CA 93740-8033, (559) 278-7422, Fax (559) 278-6995.

## **Laser Pointer Safety Guidelines**

### **Applicability**

All Class 2 or 3a laser pointers used for classroom instruction or presentations shall be operated under the guidelines established in this document. These guidelines are not applicable to any Class 3b and 4 laser devices, nor shall such devices be used in instruction or presentations without prior notification of the Laser Safety Officer.

### **Rationale**

By definition, a Class 3a laser can cause eye injury. However, the intended use of laser pointers carries a very low probability of injury. For this reason, EH&S has approved the use of Class 3a pointers for their intended use as instruction and presentation aids.

### **Labeling of Pointers**

The manufacturer is required by the FDA Center for Devices and Radiological Health (CDRH) to provide correct labeling for their laser pointers. This includes the laser hazard symbol, laser classification, maximum power output and laser wavelength. This information should be clearly visible on the laser pointer. Operating and safety instructions should also be provided by the manufacturer. If the laser does not have the required labeling, contact the Laser Safety Officer (LSO) before using the pointer. The LSO will classify and provide labels for the pointer.

### **Equipment Purchase Considerations**

If possible, purchase a Class 2 laser pointer (power does not exceed 1 mW). Class 2 lasers are designed to be safe if the beam accidentally enters the eye for a short period. The aversion response (blinking or turning the head) is fast enough to prevent injury.

The operating switch should be a momentary contact type (designed to shut off the pointer when released). The switch should not have a locking device to keep the beam on when direct pressure is removed from the switch. Pulsed laser pointers shall not exceed the Class 3a hazard class.

### **Authorized Users**

University employees handling laser pointers on campus are required to follow these guidelines.

Access to laser pointers should be limited to responsible persons who have been informed of these guidelines by the owner or user. The laser pointer should be kept in a secure place when not in use.

Persons visiting the university who wish to operate laser pointers are expected to abide by these guidelines. Generally, the person acting as host should inform the visitor of these guidelines.

The owner of the laser pointer is responsible for its use at the university.

### **Operating Safety Guidelines**

No person should ever intentionally stare into the laser beam.

The laser beam should never be intentionally directed toward oneself or directed toward another person. The beam should be directed towards the screen and directed away from the audience.

The beam should be turned off when not in immediate use.

Mirror like surfaces (such as glass, metal and other highly reflective materials) should be avoided when directing the laser beam.

Use of Class 3a laser pointers should be limited to the intended purpose. Indiscriminate use may present an eye hazard.

Class 3a laser pointer use is prohibited when optically aided viewing of the beam is probable. Optical aids include telescopes, binoculars, viewing optics, and similar devices.

### **Exceptions**

Exceptions to the above guidelines should be coordinated with the Laser Safety Officer.

### **Legal Implications of Laser Pointer Misuse**

The California Penal Code has several sections which indicate the willful misuse of a laser pointer can be considered either a misdemeanor or a felony. In particular, directing any laser beam at another person may constitute assault (suggesting the use of a laser gunsight) and directing any laser beam at an aircraft may constitute malicious mischief. Persons convicted of these crimes may be subject to stiff fines and/or jail sentences.

### **Emergencies**

Although the potential for injury from a laser pointer is very slight, notify your immediate supervisor and get medical attention if an eye injury from laser use is suspected. Also notify the Laser Safety Officer as soon as possible. Contact the University Health Service for emergency medical assistance.