

ACCESS GUIDELINES FOR AØ LASER LAB

-J. Santucci et al. September 24, 2004

Entry and Exit During Emergency Conditions

Personnel may simply walk out any door in case of emergency. This will trip the interlocks thus closing all shutters. There are three large lighted red mushroom crash buttons, two inside the Laser Lab (one by each door), and one outside the south door. Depressing any of these buttons will close all laser shutters. The button is unlit when depressed, and makes an audible click into each position.

If time permits, a quick shutdown procedure may be used:

- Hit a crash button to drop the laser shutters.
- Hit the red “stop” button on all four power supplies.

This quick shutdown leaves on all the diagnostics, but disables the laser and deenergizes all the laser power supplies.

Emergency personnel such as firefighters or paramedics may enter the Laser Lab from the single door on the south wall:

- Break the glass, turn and remove the key. The action of removing this key will remove all laser shutter and power supply permits.
- This key opens the door to the laser room.

Entry and Exit During Normal Operation

The A0 Laser Lab (A0C102) contains a class IV laser system, so the room is a class IV laser enclosure. Entrants to the A0 Laser Lab must be “qualified laser operators”¹. Appropriate laser eye protection must be worn in the room while any laser shutter is open. The Laser Lab is an interlocked enclosure, so controlled access procedures must be followed to enter and exit the room. The Laser Lab is also a “clean room” so shoe covers must be worn while in the laser lab.

If one of the entrants is a “spectator”², they must be provided with the appropriate protective eyewear and a qualified laser operator entrant must instruct the spectator on the laser hazards (e.g., hazardous diffuse reflections) and the steps to be taken in case of emergency (e.g., how to disable the laser beam by opening one of the Laser Lab doors).

If the Safety System display by the door indicates “Controlled Access Required”, the Laser Lab is interlocked and you must control access into it. If the Safety System display by the door indicates “Authorized Access”, the Laser Lab is NOT interlocked, and you must interlock the Laser Lab: Use your *AØPI Laser Lab key* (PAD 657) to enter and interlock the Laser Room. Ensure that all 3 Safety System, big red mushroom “CRASH BUTTONS” are pulled out and lit. (The first interlock reset box is on the left side of the North double doors. The second (last) interlock reset box is on the right side of the South door).

¹ FNAL ES&H Manual chapter 5062.1

² FNAL ES&H Manual chapter 5062.1

To enter the Laser Lab, the laser operators may control through the South door. Turning the laser key (PAD657) in the Enclosure Status box outside the Laser Lab door, changes to interlock status from "Controlled Access Required" to "Door Bypass Enabled" for the duration of a 25 seconds. During these 30 seconds, the laser operator can open the South Laser Lab door with the laser key, enter the Laser Room, and completely close the door without dropping the Laser Lab interlocks. If the countdown expires with the door open or the door is opened without following controlled access procedures, then the Laser Lab interlocks will drop, closing all the shutters. If the shutters fail to close within 300ms, then the laser power supply permit will drop, thus shutting down the laser's power supplies.

To resume operation, Reset both interlock boxes as above and wait for the strobe to stop. In accordance with the "*OPERATING GUIDELINES FOR A0PI LASER*", ensure that the laser power supplies are on and lamps are powered, and shutters are reset and open. The laser operators are under peer pressure to avoid dropping the A0 Laser Lab interlocks.

To exit the room under normal conditions, pressed the red exit button on the south interlock box inside the laser room. This button initiates the same "door bypass" countdown as above. The Enclosure Status box will indicate "Door Bypass Enabled"

NOTE: If the double doors on the north wall are opened, this will trip the room interlocks, the power supplies, and close all the shutters.

Any visitors who wish to enter under the "spectator³" rule are to be given a briefing as to class IV laser hazards, issued LPE, and escorted in by a qualified laser operator into the Laser Lab.

³ FNAL ES&H Manual chapter 5062.1