CEBAF Photoinjector Drive Laser User Training

Course: SAF 157

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Objective

Completion of SAF157 means the user has,

- Completed an "Eye Exam for Laser Safety" (MED 02) from the Jefferson Lab Occupational Medicine Department
- Completed “ESH-333DE, DOE Laser Worker Training” from DOE's National Training Center (NTC)
- Read Section 6410 of the EH&S manual
- Read and understood this LOSP (ACC-17-76974-LOSP)
- Received CEBAF injector drive laser room specific walkthrough training, signed on the signature sheet attached to this LOSP or/and entered into the Jlab training database

Always refer to LOSP for details. Consult Laser System designer/owner for specifics.
Prerequisites

Required Courses

- Employee Safety Orientation (SAF100)
- Oxygen Deficiency Hazard (ODH) training (SAF103)
- Rad worker I training (SAF803)
- Eye examination (MED02)
- ESH-333DE, DOE Laser Worker Training

and, sign General Access Radiological Work Permit (RWP)

Required Reading:

- Section 6410 of the EH&S manual
- CEBAF LOSP (ACC-17-76974-LOSP)

All personnel in the Laser Room (53/IN01) during LASER PERMIT must be trained and approved for the work. Escort by LSS maybe provided but the purpose must be justified.
Laser Hazards

• **Class 3R lasers:**
  – Only administratively controlled
  – May cause temporary blindness, dazzle or related consequences

• **Class 3B lasers:**
  – a hazard only by direct beam or specular reflections
  – Severe eye hazard, possible permanent blindness
  – Minor burn hazard

• **Class 4 lasers**
  – Severe eye and skin hazard
  – Class 3B or 4 hazard from transmission/partial reflections
  – Hazard from scattered light
  – Fire hazard
Additional Hazards

• **Electrical**
  – High voltage present
  – 110V extension cords

  Users are not allowed to modify/work on laser safety system

• **Oxygen Deficiency**
  – Detector installed

• **Fire**
  – Burning by laser beam
  – Electrical fires

  Smoke detector installed

• **Trip/Fall/Bump**
  – Cables, wires (even temporal use)
  – Edges of table/rack, etc.
Laser Room

• To enter:
  – Input code from the keypad on the door, enter the enclosure and close the door
  – Put on booties
  – Choose and inspect eyewear
  – Don eyewear and enter the laser room

• To exit:
  – Exit the laser room
  – Put the eyewear back to the storage case
  – Take off booties
  – Make sure the laser room door has closed
  – Exit the enclosure.

If laser operation is needed under controlled/restricted access, the Laser Bypass key must shall be obtained from a crew chief and inserted into the designated PSS chassis in ISB
Off Normal Procedures

• Fire
  – Crash the room and exit
  – Follow the evacuation procedure to exit the tunnel

• ODH
  – Crash the room and exit
  – Follow the evacuation procedure to exit the tunnel
  – Call MCC

• Eye exposure
  – Non-critical: contact Medical Services x7539
  – Critical: call 911
  – Off hours – Call 9-911. Contact medical services the next business day

• Skin exposure
  – Non-critical: contact Medical Services x7539, get first aid
  – Critical: call 911
  – Off hours: call 9-911. Contact medical services the next business day

When using a cell phone, call 911, then 757-269-5822 to warn the guards and then 757-269-7539 to get Occupational Medicine.
Always refer to LOSP for details.
Consult the Laser System designer/expert for specifics.
Questions?

Always refer to LOSP for details.

Consult Laser System designer/expert for specifics

Always wear Laser goggles when laser is on

and

Always wear required PPEs (masks, respirators…)
and follow all other rules under MEDCON

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