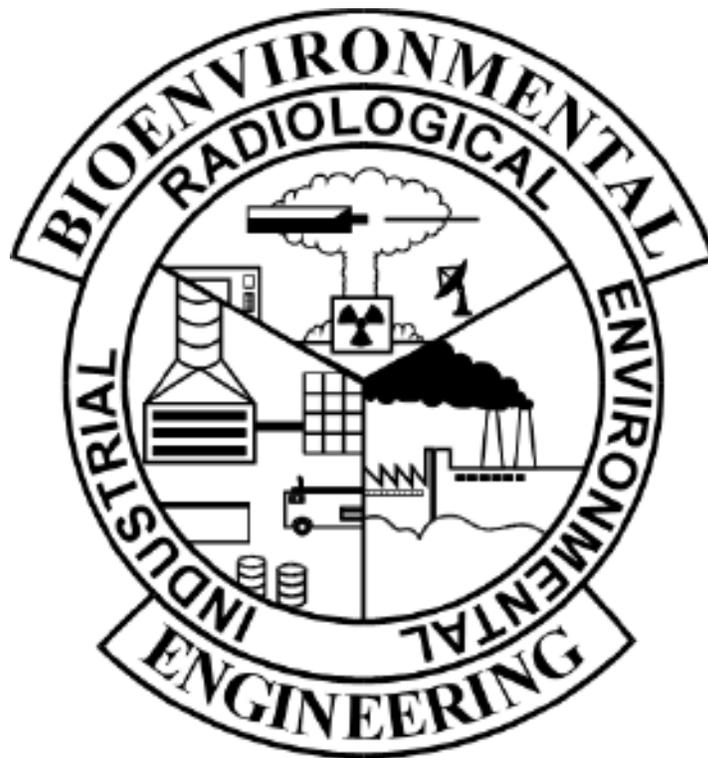


AIR FORCE SPECIALTY CODE 4B071 BIOENVIRONMENTAL ENGINEERING

Lasers



QUALIFICATION TRAINING PACKAGE

Accessibility: *Publications and forms are available on the e-publishing website at <http://www.e-publishing.af.mil> for downloading or ordering.*

Releasability: *There are no releasability restrictions on this publication.*

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STS Line Item 4.9.5.10: Investigate potential laser overexposures or accidents

TRAINER GUIDANCE

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proficiency Code: | 3c |
| PC Definition: | Can do all parts of the task. Needs only a spot check of completed work. Can identify why and when the task must be done and why each step is needed |
| Prerequisites: | None |
| Training References: | AFI 48-139, <i>Laser and Optical Radiation Protection Program</i> (25 July 2012) |
| Additional Supporting References: | https://hpws.afrl.af.mil/dhp/OE/ESOHSC/pages/index.cfm?id=336 <i>USAFSAM Laser Injury Guidebook</i> April 2012 |
| CDC Reference: | 4B051 |
| Training Support Material: | None |
| Specific Techniques: | Review real laser overexposure if available. If not, walk through a scenario. |
| Criterion Objective: | Given real laser overexposure data or a scenario, perform the steps for investigating potential laser overexposures or accidents successfully completing all checklist items with NO trainer assistance. |
| <p>Notes: Recommended scenario if no real exposure data is available.</p> <p><i>A security forces member went into the clinic this morning complaining of eye pain and blurry/spotted vision. He told his PCM that he had been zapped in the eye with a laser while performing breaching operations exercises at the Warrior Training Center.</i></p> <p><i>His PCM notified the Flight Surgeon of the potential laser injury. The Flight Surgeon notified the ILSO, MAJCOM, USAFSAM, and the laser injury hotline.</i></p> <p><i>The ILSO is your BE officer who has tasked with you investigating the potential exposure.</i></p> <p>At this point the trainee must get information from the shop and exposed personnel, which would require the trainer to act out these parts based on the information below:</p> <p><i>Breaching is an operation where security forces personnel practice entering a hostile facility. During this operation their weapons are equipped with laser sights. When this operation is performed at night, security forces personnel should be wearing night vision goggles (NVG).</i></p> <p><i>This member was exposed at night when another security forces member inadvertently pointed his laser sight at a mirror that was hanging on the wall inside the exercise facility.</i></p> <p><i>The laser sight used is classified as a Class 3B laser.</i></p> | |

TASK STEPS

1. Confirm that the overexposed personnel sought medical care.¹
2. Confirm that key personnel were notified.²
3. Conduct investigation.³
4. Document and report findings.⁴

LOCAL REQUIREMENTS:

NOTES:

1. If treatment is unavailable at MTF the host MTF physician must contact the attending physician to coordinate medical exams and treatment.
2. Supervisor notifies Commander, LSO, BE, safety within eight hours of accidental overexposure.
 - LSO notifies: Medical care, Safety, Public Health, JAG, MAJCOM, Tri-Service Laser Injury Hotline, USAFSAM
3. Collect personnel information and information pertaining to potential exposure such as: laser or other optical radiation source nomenclature, characteristics and operating parameters; date, time, place and duration of exposure; description of events; PPE/controls used during incident

Pictured below are the three different types of NVG's currently used by SF personnel.



- If these NVGs are used, there is a threat for off-axis exposure to the eyes; may be diminished depending on which way the person was looking and how big the gap between the NVGs and eyes are.



- If these NVGs are used, there is no threat for exposure to the eyes as long as they are worn properly; eye cups block out all light.



- If these NVGs are used, there is a threat to the uncovered eye.

4. Complete the Department of Defense (DOD) laser accident/incident reporting form and submit it to the Tri-Service Laser Injury Hotline within three duty days. Consider length of deployment vs. MEG standard.
 - Forward a detailed report to Installation Public Health, BE, Safety, JA, MAJCOM BE, and AFMSA/SG3PB with a courtesy copy to ESOH Service Center within 30 days.

TRAINEE REVIEW QUESTIONS

STS Line Item 4.9.5.10: Investigate potential laser overexposures or accidents

1. Based on the scenario at the beginning of this training module, is it possible the person was overexposed and why?

2. What recommendations could prevent further exposures?

3. Who notifies public health during an overexposure?

4. Who contacts the MAJCOM?

5. What information should be gathered during the investigation phase?

PERFORMANCE CHECKLIST

STS Line Item 4.9.5.10: Investigate potential laser overexposures or accidents

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proficiency Code: | 3c |
| PC Definition: | Can do all parts of the task. Needs only a spot check of completed work. Can identify why and when the task must be done and why each step is needed |

| DID THE TRAINEE... | | YES | NO |
|----------------------------------------------------------------|--|-----|----|
| 1. Confirm that the overexposed personnel sought medical care? | | | |
| 2. Confirm that key personnel were notified? | | | |
| 3. Conduct investigation? | | | |
| 4. Document and report findings? | | | |
| Did the trainee successfully complete the task? | | | |

 TRAINEE NAME (PRINT)

 TRAINER NAME (PRINT)

ANSWERS

1. Based on the scenario at the beginning of this training module, is it possible the person was overexposed and why?

A: Yes, if the proper night vision goggles (PPE) are not used and/or worn correctly, there could be a potential injury/overexposure.

(Source: AFI 48-139 A4.1.5 and 4B051 CDC)

2. What recommendations could prevent further exposures?

A: Remove all reflective surfaces from breaching practice houses.
Recommend training on proper wear of night vision goggles/protective eyewear.

(Source: AFI 48-139 A4.1.3 and 4B051 CDC)

3. Who notifies public health during an overexposure?

A: Both the shop supervisor and LSO

(Sources: 4B051 CDC)

4. Who contacts the MAJCOM?

A: The Installation LSO

(Sources: 4B051 CDC)

5. What information should be gathered during the investigation phase?

A:

Personnel information

Laser, broadband, or other optical radiation source nomenclature, characteristics and operating parameters at the time of the incident/accident

Date, Time, place and duration of exposure

Description of events

PPE/Controls

(Source: AFI 48-139 A4.2 and 4B051 CDC)