



## *Just the Facts...*

## *Maintenance of Multiple Integrated Laser Engagement System (MILES) Training Devices*

### *Potential Hazards -*

- ✓ MILES training devices contain lasers that pose a potential hazard to the eye from direct exposure to the beam at close range. Lasers are classified by the potential hazards that they produce.
- ✓ Almost all MILES devices have a hazard classification of 3a or less. Some MILES devices are Class 1 and do not pose an eye hazard. Class 3a devices exceed the Class 1 accessible emission limit by no more than 5 times.
- ✓ Hazards from MILES devices are based on a 10-s exposure duration. A shorter exposure duration lessens the hazard, but does not eliminate it.
- ✓ Optical hazards from MILES devices are limited to eye exposure to the direct beam or from the beam deflected by a mirror. Diffuse or specular reflections from ordinary glass or other surfaces are not hazardous.
- ✓ Most MILES devices have a nominal ocular hazard distance of 10 m or less. A few have an increased hazard distance when binoculars are used to view the laser from within the direct beam.
- ✓ Laser protective eyewear should only be used when administrative controls are inadequate.

### *Precautions -*

- ✓ Develop a Standing Operating Procedure (SOP) for all transmitter maintenance tasks and ensure that maintenance personnel are familiar with it and follow it.
- ✓ Do not allow personnel in the maintenance area who are unaware of the MILES optical hazards.
- ✓ Ensure that personnel maintaining equipment are aware that the direct beams from MILES devices are hazardous within 10 m.
- ✓ Never point an operational MILES device at your face or the face of another person.
- ✓ Position the MILES transmitter so that the beam is horizontal, below eye level, and terminated into a diffuse surface, before turning the device on. This precaution is especially important for malfunctioning devices.
- ✓ Make sure that the MILES transmitter is off before transporting it to a new location.
- ✓ Use laser protective eyewear when facial exposure to the direct beam cannot be avoided. A 3-mm thickness of Schott KG-3 glass or equivalent is sufficient.

### *References -*

1. American National Standards Institute, American National Standard for Safe Use of Lasers, ANSI Z136.1 (2000).
2. American National Standards Institute, American National Standard for Safe Use of Lasers Outdoors, ANSI Z136.6 (2000).
3. USACHPPM, Nonionizing Radiation Protection Study No. 25-MC-4267-96, Hazard Evaluation of the SAWE/MILES II Laser Training System, 13 June 1996.
4. USACHPPM, Nonionizing Radiation Protection Study No. 25-MC-4189-98, Hazard Evaluation of MILES 2000 Laser Transmitters, MGSS, DIFCUE, and Flash WES Devices, 9 December 1997.