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Headquarters U.S. Air Force

Integrity - Service - Excellence

Laser Dazzler Overview



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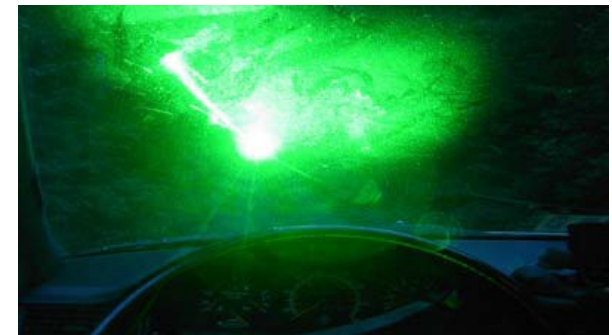
- **Background**
- **AF Efforts**
- **Joint Efforts**
- **Issues**



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Background

- The Joint Non-lethal Weapons Directorate (JNLWD) uses the term Optical Distractor
- Definition:
 - Visible laser devices that have reversible optical effects on human targets
- Provide a spectrum of capabilities
 - Unequivocal, non-verbal warning
 - Temporarily overwhelm an adversary's visual sense
- Provides an opportunity for target to clarify intent at a significant range
 - Anecdotal evidence of a 5x decrease in engagement of non-combatants





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Background



XADS PD/G-105
Class: 3b
NOHD (10s): 140m
(?)



BE Meyers GBD-IIIc
Class: 3b
NOHD (10s): 114m



BE Meyers Glare
MOUT
Class: 3b
NOHD (10s): 28m

Note: The Joint Non-Lethal Weapons Directorate (JNLWD) has fielded a number of other devices, all with the Army



- In Jan/Feb 07, CENTAF received 40 Xtreme Alternative Defense Systems (XADS) PD/G-105s in theater
 - No training, documentation, labeling, CONOPS
- In May 07, AF Laser System Safety Review Board (LSSRB) disapproved use of XADS PD/G-105
 - No safety controls, no labeling, inconsistency in laser parameters
- In June 07, LSSRB granted interim approval (Mar 09) to BE Meyers GBD-IIIc
 - Navy granted same interim approval for Marine use
 - Device has some safety controls
 - Contractor investigating adding range finder on device
 - Worked with AF Security Forces Center to develop training/CONOP



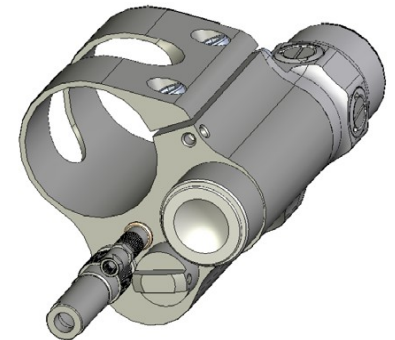
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AF Efforts

- **In Sep 07, AF Security Forces Center came back and asked the LSSRB to look at the BE Meyers GLARE Military Operations in Urban Terrain (MOUT)**
 - **Very similar to GBD-IIIc with smaller laser**
 - **Granted same interim approval until Mar 09**



- **Nominal Ocular Hazard Distance (NOHD) for dazzlers**
 - Normally assume .25s exposure for visible lasers (accidental)
 - Not appropriate since we are purposefully hitting a target in the eyes
 - DoD Laser System Safety Working Group (LSSWG) decided to apply 10s exposure standard—increases NOHD
 - Some discussion on combat vs training exposure limits
- **Dazzler ranging capability**
 - Navy, AF pushing development of capability
 - BE Meyers has an initial design for a Safety Control Module
- **JNLWD Efforts**
 - Requirements: USMC led requirements definition effort
 - Effectiveness Testing: A number of experiments done and planned to look at laser effectiveness for different missions





- **Need a better grasp of system requirements and effectiveness**
 - **These results will drive safety issues**
- **What happens when Mar 09 interim approval for GBD-IIIc and GLARE expire?**
 - **Some rumblings that the ranging device may not be ready and/or procured by next Mar**
 - **Topic of discussion for Sep LSSWG meeting**
- **Combat vs training exposure limits**
- **Laser “fratricide” incidents**



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Conclusion

- **Background**
- **AF Efforts**
- **Joint Efforts**
- **Issues**