NAVAL DIRECTED ENERGY CENTER'S

Directed Energy Warfare Office

A NSWCDD Directed Energy Center of Excellence

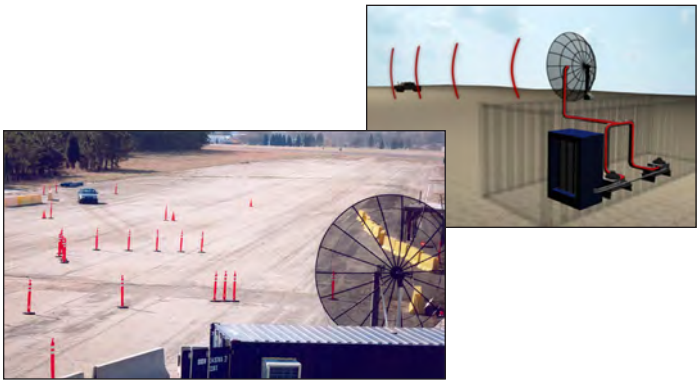
NAVAL SURFACE WARFARE CENTER • DAHLGREN DIVISION

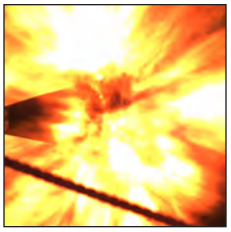
Overview

Today's U.S. military faces a wide array of challenges in diverse operating environments and postures around the world. Traditional kinetic weapons are often of limited value in peacekeeping missions and in urban environments with restricted engagement options, or can simply be too costly or ineffective to employ against asymmetric threats. Directed Energy (DE) offers the promise of unique and flexible options to address many of the challenges presented to our war fighters and to augment, not replace conventional capabilities. Recent developments by teams of scientists and engineers at the Naval Surface Warfare Center Dahlgren Division (NSWCDD) in High Energy Laser (HEL), High Power Microwave (HPM), and Counter-Improvised Explosive Device (CIED) prototype systems have demonstrated military utility in the laboratory, in field exercises at DoD test ranges, and in operational deployments. Recognizing that DE technologies are ready to transition to war fighting capabilities, NSWCDD has committed to expanding its leadership role for DE by chartering the Directed Energy Warfare Office (DEWO).

Scope

The overall purpose of the DEWO is to provide enterprise wide technical and strategic leadership for the efficient and effective development, acquisition, and fielding of DE systems for the war fighter. DEWO responsibilities include stewardship of basic research, concept development, experimentation, modeling and simulation, war gaming, requirements definition, research and system development, prototyping, system engineering and integration, product development test and evaluation, test and evaluation support through DT/OT, and major product improvements. The DEWO works within and collaboratively across the organizational structure of NSWCDD, the sister Warfare Centers, NAVSEA, and the Navy to ensure the total set of capabilities required to acquire, field, and sustain DE systems is developed and maintained.





DE Assets and Capabilities

- World Class and DoD unique facilities
  - Naval Directed Energy Center
  - HPM open air test range
  - HEL test ranges over both water and land
- Sources/Diagnostics
  - High power HPM wideband (10 MHz to 1 GHz) and narrowband (10 MHz to 95 GHz) systems
  - 45 kW of laser power for laboratory/field testing and system prototyping
- Modeling tools for hardware development, lethality estimation, and mission analysis
- More than 100 scientists and engineers with hands-on experience developing DE systems, backed by almost 3,000 NSWCDD technical personnel with expertise in a broad set of disciplines across the spectrum of complex systems engineering, integration, and acquisition

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