# INDIAN HEAD

NAVAL SEA SYSTEMS COMMAND

WARFARE CENTERS



CORONA CRANE

DAHLGREN INDIAN HEAD EOD TECH KEYPORT NEWPORT PANAMA CITY PORT HUENEME

## INDIAN HEAD DIVISION

### WARFARE CENTERS

As a Department of Defense (DoD) Energetics Center, Naval Surface Warfare Center (NSWC) Indian Head Division is a critical component of the Warfare Center (WFC) Enterprise. One of the WFC's nine Divisions, Indian Head's mission is to research, develop, test, evaluate, and produce energetics and energetic systems for our fighting forces around the globe.

Energetics are explosives, propellants, pyrotechnics, reactive materials, related chemicals and fuels and their application in propulsion systems and ordnance.

As the largest DoD full spectrum energetics facility and leader in the Navy's energetics enterprise, NSWC Indian Head employs a workforce of over 1,200, of which more than 850 are scientists, engineers, and technicians dedicated to every aspect of developing and sustaining explosives, propellants, pyrotechnics, high-energy chemicals and their application to warfighting systems. In addition, NSWC Indian Head has the largest concentration of PhDs (59) working in Energetics in the WFC, including the highest number of synthesis chemists, detonation physicists, and formulation scientists dedicated to the energetics National competency.

The Division's unique synergy and balanced capabilities address all aspects of the Energetics technical discipline, including basic research, applied technology, technology demonstration, prototyping, engineering development, acquisition, low-rate production, in-service engineering/mishaps and failure investigations, surveillance, and demilitarization.

If the military experience problems with current weapon systems, or encounter new threats on the battlefield, Indian Head Division collaborates and provides the appropriate solution. As the Navy's lead technical authority in the U.S., NSWC Indian Head performs over sixty percent of all Navy energetics workload, and has an unmatched record of 13 Navy-qualified explosives transitioned into 47 Navy, Army, Air Force, and Marine Corps weapons. Seventy-five percent of all explosives deployed in U.S. weapons were developed by NSWC Indian Head.

#### Mission

Provide research, development, test and evaluation and in-service support of energetics and energetic materials for warheads, propulsion systems, ordnance and pyrotechnic devices and fuzing for Navy, Joint Forces, and the Nation, to include research, test, and engineering of chemicals, propellants, explosives, related electronic devices, associated ordnance equipment and special weapons support. Execute other responsibilities as assigned by the Commander, Naval Surface Warfare Center.

#### Vision

Recognized as the Nation's Premier Resource for Energetics Technology, Development & Innovation

#### Technical Capabilities

- Energetic Systems RDT&E, AE, ISE and Sustainment
- Energetic Systems and Material Scale-up, Manufacture and Manufacturing Technology
- Cartridge Actuated Devices, Cutters, Sounding and Specialty Devices RDT&E, AE, ISE, Sustainment, and Manufacturing
- Weapon Simulators, Trainers, Training, Test and Diagnostic Equipment RDT&E, AE, ISE, and Sustainment
- Energetic Safety, Environmental Technology, Logistics, and PHST (Packaging, Handling, Storage and Transportation) RDT&E, AE, ISE and Sustainment

#### **Major Facilities**

- Aircrew Escape Ordnance Devices Development & Prototyping Complex
- Detonation Physics RDT&E and Acquisition • Bombproofs, blast chambers, self-contained gun ranges
- Continuous Twin-Screw Processing R&D and Scale-up
  - 20-mm, 37-mm, 40-mm and 88-mm extruders
- Novel Materials R&D
  - Nano-energetic materials characterization
  - Complete suite of analytical capabilities
- Cast Composite Rocket Motor and PBX R&D & Scale-Up Complex
- Ordnance Test Facility
  - Rocket motor ballistic test
  - Tomahawk functional ground test (FGT)
- Cartridge Actuated Device (CAD) test
- Chemical, Physical Property and Metallurgy Labs
- Quality Evaluation (QE)/Surveillance Facility
- Specialty Energetic Chemical Scale-up Facility
- High Pressure Explosives, Physics & Combustion Lab • Bomb testing; Strand burning; Combustion instability testing
- MEMS Clean Room, Underwater Warheads RDT&E and Modeling & Simulation



#### Indian Head Division Sites

