

Enemy of the Status Quo

Navy research chief Cohen highlights ONR innovations

By RICHARD R. BURGESS, Managing Editor

“I am the enemy of the status quo. I am the enemy of programs of record.” That is how Rear Adm. Jay M. Cohen characterized his role as chief of naval research during a research and development seminar at the Navy League’s 2005 Sea-Air-Space Exposition in Washington, D.C.

Cohen, in the fifth year of a normally three-year assignment at the Office of Naval Research (ONR), presented snapshot descriptions of many current projects at ONR, some of which are exotic ways to enhance Navy and Marine Corps capabilities. ONR is responsible for basic and applied research and transitioning that research to operational applications.

Cohen cited the Affordable Weapon System (AWS) as an example of technology that began as a research project and now is making the transition to an operational system. AWS is a ship-launched rocket-boosted missile with wings that carries a 200-pound warhead and can fly several hundred miles inland. It can loiter near the battlefield, available for targeting in a close-air support role.

Other coming attractions described by Cohen include:

- **Free-electron laser:** “Today we are lasing continuously at 10,000 watts. ... [The] level of output of a free-electron laser which works best for the Navy, at sea level, and in a humid environment, has increased in order of magnitude every three years. We’ll be, in the next five years, at 100,000 watts, which is the cusp of lethality. And we believe within 3-5 years after that we’ll be at a megawatt. This is way too large for the Air Force and Army; that’s why they are pursuing solid-state lasers. But we’re building electric ships. We’ve got the power, we’ve got the volume [and] we’ve got seawater cooling, which is critically important.”

- **Hi-Fly:** A 5-year-old Navy/Defense Advanced Research Projects initiative, Hi-Fly is a Mach 7 (seven times the speed of sound) missile that can be launched from an F/A-18 aircraft or the vertical-launch tube of a ship or submarine and fly 600 miles in 10 minutes. “I would say that defines time-critical strike,” Cohen said.

- **Thermocline Glider:** “We now have gliders that use



Rear Adm. Jay M. Cohen, chief of naval research, outlines some current projects of the Office of Naval Research during a seminar at the 2005 Sea-Air-Space Exposition.

the thermocline (a sharp temperature change in a vertical column of water that distorts sound propagation) as their power, and they are operating at sea for months. In the future ... they could be weaponized as low-cost, low-endurance devices that not only tell us about their environment, but lie in wait for hostilities to occur,” Cohen said.

- **American Flyer:** A vessel that collects loaded air-cushion landing craft launched from amphibious warfare ships and shuttles them at high speed from 100 miles out to a zone near the shore.

Cohen concluded the seminar with a mission statement for naval research: “I believe that what we are doing in [science and technology] is saving some life and limb.” ■

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