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February 14, 2008

DDG 1000 – Dominating the Littoral Battlespace

“When you look at DDG 1000 the technology is extraordinary. It is unique in that we have never tried to bring online so many new technologies, but the steps that have been taken and the investments that have been made have reduced the risk that is normally associated with new technology.”

-- Adm. Gary Roughead, Chief of Naval Operations

The Navy’s recent contract modification awards to Bath Iron Works and Northrop Grumman enable construction to begin on the first two DDG 1000 Zumwalt-class destroyers. This class of next-generation, multi-mission surface combatants tailored for land-attack and littoral dominance will deliver improved warfighting capabilities. The ship enables continued forward presence and combat power operating independently or as part of a carrier or expeditionary strike group and remains an integral part of joint and combined expeditionary forces.

Delivering future force capabilities in anti-air warfare to the fleet

- Threat detection – DDG 1000 features dual band radar (DBR) for improving area air surveillance, including over-land, through the cluttered sea-land interface. DBR compliments Aegis systems through the Cooperative Engagement Capability.
- Threat engagement – the ship employs a full spectrum of vertically launched weapons to provide ship self-defense and area defense launched from the Advanced Vertical Launch System (AVLS).

Precision land attack capabilities for the joint environment

- Naval gunfire support – DDG 1000 features two 155mm Advanced Gun System (AGS) guns to provide unprecedented precision firepower at long range in support of joint and coalition forces ashore.
 - AGS will fire the 7-foot-long, GPS-guided, rocket-assisted Long Range Land Attack Projectile (LRLAP) more than 63 nautical miles.
- Tactical strike – the ship can carry up to eighty Tactical Tomahawk cruise and/or a variety of other missiles, launched by AVLS or by an unmanned, flexible Peripheral Vertical Launching System (PVLS).

Other capabilities and stealth equivalent to an SSN

- Undersea warfare – DDG 1000’s Integrated Undersea Warfare System (IUSW) provides a Multi-Function Towed Array (MFTA) and dual frequency hull-mounted sonar. Broadband processing and in-stride mine avoidance will permit sustained operations against mines and submarine threats in littoral waters.
- C4I – a single software backbone, the Total Ship Computing Environment (TSCE), operates all aspects of shipboard operations. TSCE is an open architecture software solution facilitating reduced manning.
- Special Warfare – a stern boat ramp and two 11m rigid hull inflatable boats enables special operations.
- Stealth – with comprehensive signature control, DDG 1000 can be as quiet as a submarine and as small as a fishing boat on radar, providing enhanced survivability to maintain persistent presence in the littorals.

Key Messages

- DDG 1000 introduces more technology in one ship than ever before.
- DDG 1000 provides forward presence and combat power in support of joint operations in the littorals.
- Although DDG 1000 is a bigger than the DDG 51 class, it has a smaller crew (148 including Air Det), high quality of life and lower total ownership costs.

Facts & Figures

- AGS can fire multiple rounds at the same target with varied trajectories to arrive at the same point simultaneously.
- This is a dual lead-ship effort with deliveries in the 2013/2014.
- DDG 1000 is an integrated, all-electric drive ship, permitting rapid reconfiguration of power distribution and enabling employment of new systems.