



IDS Business Support,
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Precision Engagement & Mobility Systems Global Strike Systems

Small Diameter Bomb Increment II Backgrounder

Description & Purpose:

The Small Diameter Bomb (SDB) System was developed by Boeing and provides the next generation of low cost and low collateral-damage precision strike weapons for internal and external carriage. The smaller size of SDB weapons and the SDB 4-place carriage enables more weapons to be carried on each aircraft smart weapon station and thus improves mission effectiveness.

The initial weapon in the SDB Systems family of weapons is the Inertial Navigation System/Global Positioning System guided GBU-39, which is effective against stationary targets in all weather from stand-off. The SDB System including the GBU-39 is currently in production.

The second SDB weapon (SDB Increment II) that will join the SDB family will provide a robust capability against moving targets in all weather from stand-off. The Air Force is competing the SDB II weapon. In April 2006, the Air Force selected Boeing and Raytheon to compete in a 42-month Risk Reduction program. The winner will be sole source producer of the SDB II weapon.

For SDB II, Boeing has teamed with Lockheed Martin. Boeing as prime contractor and system integrator will supply the air vehicle – a preplanned derivative of SDB Increment I – as well as the data link system. Lockheed Martin, the principal supplier, will provide the multi-mode seeker that is key to meeting the U.S. Air Force and Navy requirement of hitting moving targets in all weather. As the prime contractor, Boeing will have responsibility for the overall weapon system, including the air vehicle, based on SDB Increment I, which entered low-rate initial production in April 2005. Lockheed Martin has total sub-system responsibility for the seeker system.

Customer(s):

U. S. Air Force and Navy. Acquisition of the SDB system is managed by the Air Force Program Executive Officer, Weapons, and the 918th Armament Systems Group (Miniature Munitions) at Eglin AFB, Fla. The SDB II requirements includes carrier suitability.

General Characteristics:

- SDB II Weapon: multipurpose, insensitive munition, equipped with deployable wings for extended standoff range
 - Requirement:
 - Moving Targets in All-Weather conditions
 - Bomb on coordinates (GBU-39 target set less penetration targets)
 - Laser designated targets
 - Point and Shoot for targets of opportunity
 - Weapon Characteristics:
 - Dimensions: approximately (L x W): 70" x 7.5" (1.8 m x 19 cm)
 - Weight: approximately 250 pounds (115 kg)
 - Warhead: Blast - Fragmentation
 - Fuse: electronic safe and fire (ESAF) cockpit selectable functions, including air burst and delayed options
 - Standoff maximum range: more than 40 nautical miles
- Guidance
 - Precision inertial navigation system/global positioning system (INS/GPS) with Anti-jam GPS and selective-ability anti-spoofing module (SAASM)
 - Multi-mode terminal guidance: Lockheed Martin's multi-mode seeker enables all-weather attack and classification of moving targets, a critical requirement of SDB II. The seeker has completed extensive development and testing under Lockheed Martin investment and the Joint Common Missile program. The terminal guidance provided by the seeker will enable aircrews to attack more targets with fewer sorties.
- Network Data Link: 2-way communication

Background:

Boeing and Lockheed Martin announced their teaming agreement to compete for SDB Increment II in October 2005. The U.S. Air Force is expected to award a sole source contract for the SDB II system design and development phase by late 2009.

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