

Integrated Defense Systems
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Aegis Standard Missile-3 Kinetic Warhead

Description and Purpose:

Standard Missile - 3 (SM-3) is being developed as part of the Missile Defense Agency's sea-based Aegis Ballistic Missile Defense System. The missiles will be deployed on Aegis cruisers and destroyers to defend against short- to medium-range ballistic missile threats in the midcourse phase of flight. Raytheon is the prime integrator of the SM-3. Boeing is a subcontractor to Raytheon.



Customer(s):

Missile Defense Agency, U.S. Navy.

General Characteristics:

The SM-3 test program follows the Navy's philosophy of incrementally increasing capability and reducing risk. Extensive ground testing of the missile subsystems and early ship integration with operational ship crew training has resulted in a highly successful intercept rate. The flight tests have demonstrated the system's ability to intercept targets during the missile's descent phase as well as the more challenging ascent phase. SM-3's kinetic warhead lethal aim point guidance accuracy is key to selecting and destroying the target payload.

Developed by the U.S. Navy, the Aegis Combat System is a surface-to-air integrated weapons platform designed to defend against airborne threats. The heart of the system is an advanced, automated detect and track, multi-function phased array radar able to perform search, track and missile guidance functions simultaneously with a track capacity of over 100 targets. It operates as a computer-based command-and-decision system capable of combating multi-mission threats: anti-air, surface and anti-submarine warfare.

Background:

Boeing has been teamed with Raytheon on the SM-3 program since 1996, and is under subcontract to build and integrate major subcomponents. Boeing is responsible for the kinetic warhead guidance unit, ejector, environmental testing and integration. In addition to SM-3 round integration, Raytheon provides the KW infrared seeker, signal processor and the final flight software integration.

In 2007, the Aegis SM-3 successfully intercepted targets four out of four attempts, including the first Japanese launched Aegis SM-3. In 2008, the second Japanese launched SM-3 failed to intercept the target. An investigation is ongoing to determine cause.

On Feb. 20, 2008, during a real-world mission, the U.S. Missile Defense Agency and the U.S. Navy intercepted and destroyed a non-functioning satellite with the Aegis SM-3 launched from the USS Lake Erie. The objective of the launch was to rupture the satellite's fuel tank to dissipate about 1,000 pounds of hydrazine, a hazardous material which could pose a danger to people on earth, before it entered into earth's atmosphere.

Miscellaneous:

Engineering and program management are located in Huntington Beach, Calif.; production is done in Huntsville, Ala.

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January 2009