

BMDS PROGRAMS

Kinetic Energy Interceptor (KEI)

SUMMARY

- Kinetic Energy Interceptor (KEI) is an early developmental boost/ascent phase kinetic energy hit-to-kill element with potential midcourse capability.
- MDA recently completed a programmatic restructuring of KEI.

SYSTEM DESCRIPTION AND MISSION

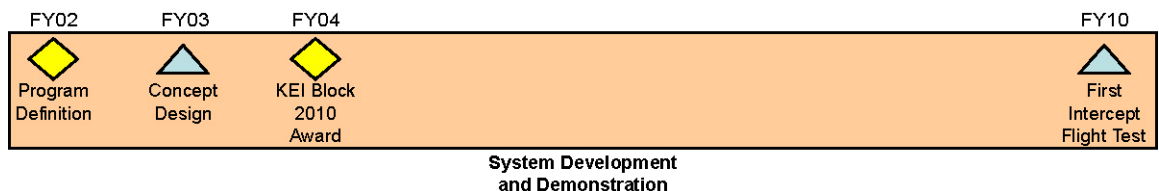
The KEI effort is developing a hit-to-kill element that can be land or sea-based to destroy intermediate range and intercontinental ballistic missile threats in their boost/ascent phase. If feasible, the program may modify KEI to provide intercept capability in the midcourse phase of flight. The KEI element will consist of three components: high velocity interceptors, a launcher, and a command and control system for fire control. KEI will have no organic sensor for target detection and tracking; it will rely on targeting information provided directly from overhead sensors or through the external, BMDS Command, Control, Battle Management, and Communications network. The restructured program schedules development of a land-based KEI capability in Block 2012 and a sea-based KEI in Block 2014.

Boost phase defense relies on extremely rapid detection and tracking of threat missiles. In FY06-07, the program is planning the Near-Field Infrared Experiment, a satellite-based data collection activity to acquire target signatures to support the KEI development test and evaluation program.



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TEST AND EVALUATION ACTIVITY



In December 2003, after a competitive concept design phase, MDA awarded a KEI development contract through January 2012 to a Northrop Grumman-led team. The flight-test schedule begins with booster testing in FY08 and FY09, followed by seven intercept tests between FY10 and FY12. Four of the KEI interceptor launches will be from San Nicholas Island, part of the Point Mugu, California, test complex. The other three tests will fire KEI interceptors from a container ship located off the California coast. Use of the ship will permit the KEI to achieve the desired engagement geometries. In these tests, the container ship is merely a mobile launch platform, and is not the eventual sea-based KEI platform. The program will launch all targets used in KEI intercept tests from Vandenberg Air Force Base, California.

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TEST AND EVALUATION ASSESSMENT

Since the KEI element is early in development and in the midst of program restructuring, MDA has not fully defined the test and evaluation plans. However, MDA has begun developing a Live Fire Test and Evaluation strategy for KEI. The KEI element is also participating in MDA's Test Envelope Expansion Working Group, which is developing policies to enable realistic missile defense tests while limiting the risk to space assets from intercept debris.