MISSILE DEFENSE AGENCY

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Fact Sheet

The Ballistic Missile Defense System

One of the greatest threats facing the world today is the increasing proliferation of ballistic missiles. As more countries develop sophisticated missile designs, the number of missiles capable of reaching the United States increases as well.

On December 17, 2002, the President directed the Department of Defense to field a defensive system capable of countering the near term ballistic missile threat to our homeland and our deployed forces, allies, and friends. In response, the Missile Defense Agency is developing an integrated, layered Ballistic Missile Defense System that, over time, will address all three phases of a hostile ballistic missile's flight and will defend against all ranges of ballistic missiles. The long-term missile defense solution will employ multiple sensors and interceptors integrated by a command, control, battle management, and communications network. This network will enable Ballistic Missile Defense System sensors to share missile tracking data with any other system component.

Ballistic missiles follow a three-phased trajectory path: boost phase, midcourse phase, and terminal phase.

Boost Phase

The boost phase is the most difficult phase in which to engage a missile, because the intercept window is only from one to five minutes. However, the missile is easiest to detect and track in the boost phase because its exhaust is bright and hot. Certain Ballistic Missile Defense System sensors can quickly identify the enemy missile while it is in boost phase, but the sensors must be in close proximity to the missile launch. Early detection in the boost phase allows for a rapid response and intercept early in its flight while the missile is far away from its target, and is the most desirable phase in which to engage.

Midcourse Phase

The midcourse phase begins when the enemy missile's booster burns out and it begins coasting in space towards its target. This phase can last as long as 20 minutes, allowing several opportunities to destroy the incoming ballistic missile outside the earth's atmosphere. Any debris remaining after the intercept will burn up as it enters the atmosphere.

Terminal Phase

The terminal phase is very short and begins once the missile reenters the atmosphere. It is the last opportunity to make an intercept before the warhead reaches its target. Intercepting a warhead during this phase is difficult and the least desirable of the three because there is little margin for error and the intercept will occur close to the intended target.

Currently Fielded Capabilities

From its establishment in early 2002 through the end of 2008, the Missile Defense Agency has fielded a Ballistic Missile Defense System consisting of:

- 24 Ground-Based Interceptors
- 18 Aegis warships capable of long-range surveillance and tracking and missile intercepts
- Standard Missile-3 interceptors for Aegis Ballistic Missile Defense warships
- An upgraded Cobra Dane radar in the Aleutian Islands
- Two upgraded early warning radars (Beale AFB, California and Fylingdales, United Kingdom)
- Two transportable X-band radars
- A sea-based X-band radar