

MDA Admiral: Missile-Killing Navy SM-3 IIA Missile Overcame Target Track Drift to Make Successful Intercept

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A SM-3 Block IIA is launched from the USS John Finn, an Aegis Ballistic Missile Defense System-equipped destroyer, Nov. 16, as part of Flight Test Aegis Weapons System-44 (FTM-44). FTM-44 is a developmental test satisfying a Congressional mandate to evaluate the feasibility of the SM-3 Block IIA missile's capability to defeat an ICBM threat. Missile Defense Agency

ARLINGTON, Va. – The recent successful intercept of an intercontinental ballistic missile (ICBM) target by a ship-launched SM-3 IIA missile proved the missile could compensate for track error built up over time, the Missile Defense Agency director said.

An SM-3 Block IIA missile, launched on Nov. 16 from the Arleigh Burke-class guided-missile destroyer USS John Finn (DDG 113) positioned northeast of Hawaii, intercepted and destroyed an ICBM-representative missile launched from the Ronald Reagan Ballistic Missile Defense Test Site, located on Kwajalein Atoll in the Republic of the Marshall Islands.

Vice Adm. Jon Hill, director, Missile Defense Agency, speaking Nov. 19 at the Virtual Combat Systems Symposium of the American Society of Naval Engineers, said the Flight Test Aegis Weapon System-44 (FTM-44) was particularly challenging because of the distance involved and the scant sensor coverage of the target missile's flight path, which induces some drift in the fire-control solution that requires the SM-3 IIA missile to correct its course during flight.

The destroyer used engage-on-remote capabilities to intercept the ICBM target, with the ship's own sensors not used for targeting. Target track data was passed to the ship through the Command-and-Control Battle Management Communications (C2BMC) network.

After launch, when the SM-3 IIA missile "opens its eyes, it's going to be dealing with a lot of error in the track" Hill said. "It's got to divert – our terminology for maneuvering – so it's got to maneuver to collide, because we do kinetic-energy intercepts."

The missile's nose section is equipped with four small rockets firing sideways to alter the missile's terminal course to make the intercept.

Hill explained that kinetic-energy intercepts are necessary because, with a potential weapon of mass destruction, "the best way to take it all out is with imparting kinetic energy – a direct hit."

The missile's own video data link to the ship, as well as a space-based sensor, confirmed the destruction of the target.

Hill said the factors involved – "precision guidance from the Aegis Combat System [on the destroyer]; a missile that has the ability to seek and divert to run right into the ICBM. That was a big challenge coming into FTM-44."

"FTM-44 was the sixth flight test of an Aegis BMD-equipped vessel using the SM-3 Block IIA guided missile. FTM-44, originally scheduled for May 2020, was delayed due to restrictions in personnel and equipment movement intended to reduce the spread of COVID-19," the Navy said in a release.

[An animation of the test, test video, photos,](#) and additional information about all elements of the U.S. Missile Defense System can be found at <https://www.mda.mil>.