# SLAM ER's Third Flight Hits Critical Node

Standoff Land Attack Missile Expanded Response (SLAM ER) successfully completed its third and most complex mission to date as the U.S. Navy's next generation cruise missile continues to perform as advertised during its flight test program.

The flight took place Dec. 10 at the Pacific Missile Test Range in Southern California.

The flight demonstrated the missile's range capability for low altitude flight and data link control before accurately impacting the target. By destroying the critical node, the entire target can quickly and efficiently be rendered inoperative.

"SLAM ER continues to perform well and met the objectives for this test," said Capt. Rob Freedman, SLAM ER program manager for the U.S. Navy. "I am very pleased with the performance of the missile and the Boeing and Navy test team."

Lt. Wade Knudson launched SLAM ER from an F/A-18C Hornet. The missile navigated autonomously over 75 nautical miles through a series of complex maneuvers to remain within the boundaries of the range. Operating from a safe standoff distance in a second F/A-18, Lt. Carl Chebi identified the target and locked SLAM ER onto the pre-determined aimpoint during the terminal segment of the missile's flight. The result was a direct hit on the target.

Direct hits such as this result from a highly successful implementation of man-in-the-loop control, allowing the pilot to precisely update the point of impact during the missile's final moments of flight. A data link in the missile is used to transmit an image of the target to the controlling aircraft. A key feature of the SLAM ER's improved man-in-the-loop interface, known as the Stop-Motion Aimpoint Update, allows the control aircraft pilot to freeze the target scene video on his cockpit display, designate a precise aimpoint, and then command the missile to attack that aimpoint. This unique SLAM ER guidance mode will allow the missile to attack and hit critical aimpoints even when the aimpoints have no distinguishing infrared signatures.

SLAM ER's man-in-the-loop control system offers several tactically significant advantages over other types of standoff weapon guidance systems.

Viewing the target scene in real time prior to impact allows target identification, reduced collateral damage, selection of a secondary aimpoint in the event the original target has already been destroyed, and an immediate indication of mission success.

SLAM ER combines man-in-the-loop control with a highly precise inertial navigation system, jam resistant global positioning system, and a hardened data link. The inherent errors associated with traditional target location and Global Positioning System navigational accuracy are negated by this combination of subsystems.

The U.S. Navy plans to upgrade its existing inventory of more than 700 SLAMs to the SLAM ER configuration. SLAM ER is the only air launched, precision standoff outside area defense missile funded for production in the fiscal year 1998/1999 Department of Defense budgets. The SLAM ER weapon system, scheduled to complete testing in late 1998, provides the U.S. Navy with a significant increase in war fighting capability.

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