NRO Provides Support to the Warfighters

28 April 1998

"Sabre One, this is the CAOC, we have an armored column in your area. We're downloading video feed of location."

"Roger CAOC. We have it."

The F-15E Strike Eagle turns and steers to the coordinates provided -- the pilot uses pictures being provided to the cockpit to find the targets. The ranks run, but they can't hide from the overhead Predator reconnaissance aircraft, which feeds pictures to the F-15 via the Combined Air Operations Center. Using these pictures, the crew find the tanks within minutes and destroy them using laser guided bombs.

Direct TV to the cockpit? It may not be like turning on the game at home, but it's not science fiction any more. Today, due to a joint effort between the Air Force, Navy and the National Reconnaissance Office, targeting footage is provided directly to the cockpits of Air Force F-15Es and Navy F/A-18s operating in Bosnia.

The Rapid Targeting Capability has been in Bosnia since Sept. 1996. The key players in developing the system were the NRO, the Air Force's Reconnaissance Program office at Wright Patterson AFB, Ohio and the Naval Air Warfare Center at China Lake. The system is primarily designed for aircraft going after mobile targets that aircrews operating on alert haven't had the opportunity to preplan.

The Rapid Targeting Capability can take video or images from platforms like the unmanned Predator, the U-2 or the Joint Stars and transpose it over an NRO satellite photo and then match the two in realtime to get precise target coordinates. The satellite photo provides a broad area context for the smaller snapshot from the tactical reconnaissance aircraft and provides more precise coordinates than can be provided from the tactical feed alone.

"We provide television to the cockpit to put bombs on target," said Maj. Alan Tucker, one of the NRO's engineers who helped develop the system.

The process may start with a ten by ten nautical mile pictures of the target fed to the cockpit, improved by five by five, then to one by one and finally down to a view that provides the same heading as the approaching aircraft. These different pictures give the pilot a perspective he wouldn't get from a tactical aircraft alone and aids him in finding the target.

Before this system was in place an aircraft might be vectored to its target by a forward air controller - a process that often required the aircraft to orbit over a target area for as much as 15 minutes.

"This doesn't take any more than five minutes over the target area," said Major Stephen Schwartz, an F-15E pilot with the 334th Fighter Squadron at Seymour-Johnson AFB, N.C.

Schwartz used the system while deployed to Bosnia with the 49th Fighter Squadron out of RAF Lakenheath. "It's safer for us because we don't have to orbit nearly as long and it's safer for the FAC because he doesn't have to be there at all."

Ideally the pilot may never have to overfly the target area at all. During testing at Nellis AFB, Nev, Aircrews used the system to go straight to targets and launch while still 4-6 miles away, according to Lt. Col. Bob Halverson, the operations officer for the 4th Training Squadron at Seymour-Jouhnson, who helped test the Rapid Targeting Capability at Nellis in 1993.

It's also well beyond the technology used during the SCUD hunts of Desert Storm.

"During Desert Storm we didn't have technology like this. We were just bombing coordinates in the desert," said Capt. Gerry Downey, who was flying in F-111Es at the time. "With this system, we could take off and receive imagery from JSTARS that would show us where they think the target is," said Downey, who is a weapons systems officer with the 334th FS and, like Schwartz, was in Bosnia with the 494th FS.

The system is an example of how the National Reconnaissance Office, which designs, builds and operates the nation's spy satellites, is providing the warfighter with information he didn't have in the past. In addition to providing the satellite photos, the NRO developed the software that enables the tactical pictures to be overlayed onto them.

"We have made tremendous strides in getting the data out to the users," said NRO's Tucker. "The data is not only getting to them, it's far more useful to them because of our understanding and ability to exploit it."

"It's a hundred times better than talking to a FAC," said Downey. "You know what they say - a picture is worth a thousand words."