

NAVAIR CONNECTS WITH ARMY SPECIAL FORCES



Kevin Morse, PMA-241's deputy assistant program manager for logistics, gave his first briefing on Fast Tactical Imagery to the Green Berets in a bombed-out building similar to those shown here in Afghanistan. The wall was painted white and window openings were covered with boards to block the light so the presentation could be seen clearly.

By Renee Hatcher

The Naval Air Systems Command F-14 Program Office (PMA-241) sent one of its own to the front lines of the war in June 2002 to help improve the situational awareness of Army Green Berets on the ground. "The thrust of PMA-241 has always been to provide service to the fleet," said Capt. Peter Williams, F-14 Program manager. "We have been the ultimate technology provider for the F-14 community, but when we can go beyond that and help our brethren in the Army, it's an exceptional thing."

Kevin Morse, PMA-241's deputy assistant program manager for logistics, and two contractor support personnel spent about three weeks in Afghanistan establishing connectivity between Army Special Forces and Navy tactical aircraft for the exchange of imagery and intelligence. NAVAIR loaned the Army four Fast Tactical Imagery (FTI) laptops, a technology developed by PMA-241, that can retrieve and send information in near real-time.

The need for such a capability was identified by an F-14 aviator from Carrier Air Group 7 who was on a one-month assignment with the intelligence center at the Army Air Base in Bagram. He saw that the Special Forces group in the Kabul area were not getting imagery intelligence as quickly as they needed. He recognized the challenge and knew who could meet it. The original request for support came to PMA-241 May 20, and the program office had the Navy and Army exchanging images by June 22.

"This is just one example of NAVAIR using its advanced warfighting capabilities to solve the problems of modern warfare," Williams said. "Working hand-in-hand with the Army against al Qaeda forces, PMA-241 demonstrated the value of



Kevin Morse, third from left, PMA-241's deputy assistant program manager for logistics, joins U.S. Army Special Forces and Afghanistan coalition force members in Kabul. Morse went to Afghanistan in June to establish connectivity between Army Special Forces and Navy tactical aircraft.

network centric warfare capability in a real-time theater of operations." Morse left for Afghanistan on June 12. He located the equipment, made the necessary connections, and trained the Army Green Berets on how to use FTI laptops to communicate with Navy F-14 squadrons VF-143 and VF-11. "The special forces were not getting any near real-time imagery from tactical aircraft in the theater of operations," Morse said. "FTI enabled the F-14 crews to transmit images to ground troops within two minutes."

This is a two-way communication system that lets ground troops send images back to the Tomcats. This capability is also compatible with the Army's AH-64 Apache

helicopter and FTI is expected to be used on the F/A-18E/F Super Hornet. "The Tomcat is mature, but it's still leading the way with new technology and it's setting the stage for the Super Hornet," Williams said. "We are helping to establish requirements in the spiral development of the Super Hornet." FTI was first used during operation Southern Watch in 1999. It allowed aircraft to launch from a carrier without a predetermined target, acquire a target, transmit imagery back to the ship and get permission to strike during flight. "This capability represents the highest standard in warfare technology," Williams said. "Our mission is to enable absolute combat power through technologies that deliver matchless capabilities."

Meeting these high standards and delivering superior technology is no small feat, but doing it in a third world country during a war presents unique challenges. A former Army Ranger, Morse is no stranger to hazardous and primitive conditions, but what he experienced in Afghanistan was unlike anything he had ever seen. He spent three weeks living in a tent with camel



Kevin Morse, PMA-241's deputy assistant program manager for logistics, and two contractor support personnel spent about three weeks in Afghanistan staying in tents like these at the Army Air Base in Bagram.

spiders the size of a hand in temperatures exceeding 106 degrees at 5,000 feet — where dust storms were a part of daily life. A harsh climate, however, was not the only challenge Morse faced. It took more than a week to locate the equipment after it arrived in Afghanistan and European electrical connectivity presented other problems.

Morse overcame these obstacles and gave his first briefing on FTI to the Green Berets in a bombed-out building in Bagram. He used a projector to show the presentation on a wall the team painted white so that the slides could be seen. Windows were covered with boards to block the light.

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"It was a really bad place to be with a lot of people going through a lot of hardships," Morse said. "But, it was very rewarding to know I was doing something in support of the war against terrorism." The Army will continue to use Navy assets to collect imagery. While Morse was in Afghanistan, PMA-241 sent contractor support personnel from Signal Corporation to Fort Bragg to provide FTI training for another Army division preparing to leave for Afghanistan.

"The special forces were very grateful for the help we provided in performing their mission," Morse said. "There was no separation between Navy and Army — we were just Americans working together." □

NASA Tests New Helmet Developed at NAVAIR



A pilot at NASA's Dryden Flight Research Center in Edwards, Calif., prepares for a flight test in an F/A-18 Hornet with the new two-part helmet concept developed by NAVAIR engineers in the Crew Systems Research and Engineering Competency Program. Photo courtesy of NASA.

By Renee Hatcher

Engineers from NAVAIR's Crew Systems Research and Engineering Competency Program (AIR-4.6), have developed a new helmet concept that they expect will enhance the stability and reliability of helmet mounted devices, ultimately improving the accuracy of information available to the aircrew on Navy and Marine Corps aircraft.

In July, pilots began wearing the modular, two-part helmet prototype during limited flight testing in an F/A-18 Hornet at NASA's Dryden Flight Research Center in Edwards, Calif. The helmet will be fully flight-qualified by the Navy before it can be transitioned to the warfighter through NAVAIR's Aircrew Systems Program Office (PMA-202). Continually evolving operational requirements for the Navy and Marine Corps call for a variety of helmet-mounted devices. These technologies often pose significant challenges in terms of aircrew systems safety, comfort and acceptability. Dr. James Sheehy is leading NAVAIR's Aircrew Systems Science and Technology Program effort to provide a stable platform to support the expanded range of helmet-mounted devices. The two-part helmet concept, originated by the Gentex Corp., was adopted and further developed by the Navy to meet the specific requirements of the warfighter. "It is lightweight, comfortable and stable," Sheehy said. "The helmet is easily adaptable to outer mission modules including the basic tactical outer helmet assembly recently flown in the F/A-18."



An F/A-18C Hornet assigned to Strike Force Squadron Two Five (VFA-25)— the "Fist of the Fleet." U.S. Navy photo by PHA Philip A. McDaniel.

Advanced materials, new suspension techniques, and precision fitting enable the two-part helmet to outperform current helmet technology. The inner helmet assembly is "eye-referenced" which means it is individually fit to each pilot to ensure that his or her eye is always in the proper location for the outer modules. The outer helmet is a shell that can be tailor-made to fit various missions and can range from a plain helmet for impact protection to a high resolution helmet mounted display. The ability to split the protection between the inner and outer modules allows the helmet to cross platforms between rotary and fixed wing aircraft.

"Providing the required tactical capability while preserving and advancing aircrew safety and protection is an extremely important objective," Sheehy said. "As the ultimate technology provider to the warfighter, our mission is to enable absolute combat power through technologies that deliver matchless capabilities."

Renee Hatcher, NAVAIR Public Affairs. □