

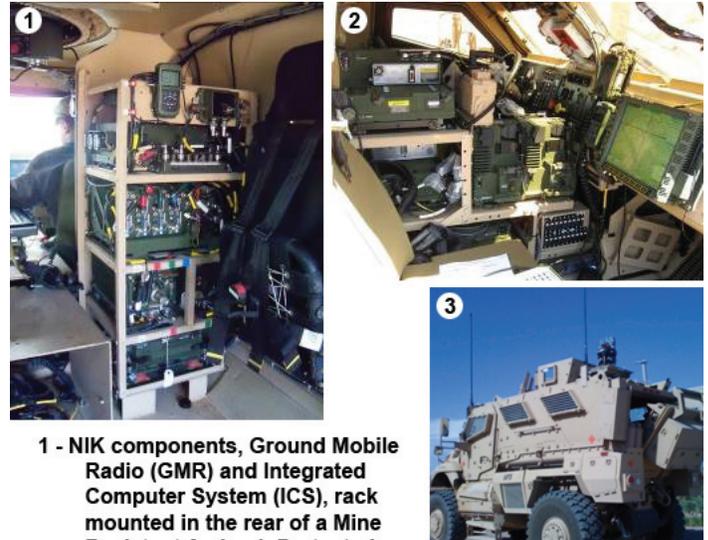
Early Infantry Brigade Combat Team (E-IBCT)

Executive Summary

- The USD(AT&L) signed an Acquisition Decision Memorandum (ADM) in February 2011 that modified the Early Infantry Brigade Combat Team (E-IBCT) program. This ADM approved a continued low-rate initial production (LRIP) of one additional brigade set of the Network Integration Kit (NIK). No additional NIK procurement was authorized.
- The Army Test and Evaluation Command (ATEC) executed a NIK Limited User Test (LUT) at White Sands Missile Range, New Mexico, in June 2011 in accordance with a DOT&E-approved test plan. During the LUT, a Mine Resistant Ambush Protected (MRAP)-equipped infantry battalion with 25 NIKs executed a series of offensive, defensive, and stability missions during three 96-hour scenarios.
- Because the February 2011 E-IBCT ADM ended any further procurement of the NIK beyond one additional brigade set, the NIK program has completed its operational testing with the 2011 LUT.

System

- The E-IBCT program now consists of the NIK. The NIK is mounted on a tactical wheeled vehicle such as the High Mobility Multi-purpose Wheeled Vehicle or the MRAP vehicle.
- The NIK hardware components consist of:
 - Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR)
 - Integrated Computer System
 - Incremental Battle Command Extension (IBEX) (IBEX is a laptop computer system used by the operator for text chat and file transfer via the NIK)
- The JTRS GMR, as a component of the NIK, hosts the following waveforms:
 - Wideband Networking Waveform (WNW)
 - Soldier Radio Waveform (SRW)
 - Single Channel Ground and Airborne Radio System (SINCGARS)



1 - NIK components, Ground Mobile Radio (GMR) and Integrated Computer System (ICS), rack mounted in the rear of a Mine Resistant Ambush Protected (MRAP) vehicle

2 - NIK components, GMR and Force XXI Battle Command Brigade and Below (FBCB2), within a MRAP vehicle

3 - MRAP vehicle equipped with NIK

- The NIK interfaces with the Force XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT) system.

Mission

IBCTs equipped with the NIK will perform all tactical operations (offensive, defensive, stability, and support) that are currently conducted by infantry forces. The Army intends the E-IBCT NIK to enhance brigade and below command and control capabilities.

Major Contractor

The Boeing Company, Integrated Defense Systems – Huntington Beach, California

Activity

- The USD(AT&L) signed an ADM in February 2011 that modified the E-IBCT program. The key decisions were:
 - Approval of continued LRIP of one additional brigade set of the NIK (not to exceed 100 units). This brigade set is in addition to the brigade set purchased in the LRIP as part of the December 2009 E-IBCT Milestone C decision. No additional NIK procurement beyond these two brigade sets was authorized.
 - Termination of the Tactical and Urban Unattended Ground Sensors (T-UGS and U-UGS) and the Class 1 Unmanned Aerial System.
 - Approval of continued LRIP for two additional brigade sets of the Small Unmanned Ground Vehicle (SUGV). The Army was directed to consider any additional SUGV production decisions under a separate Army program.

ARMY PROGRAMS

- Approval for the Army to continue NIK testing to determine whether the NIK should be fielded to one Brigade Combat Team.
- The Army conducted the NIK Technical Field Test (TFT), a developmental test, in March – April 2011 at White Sands Missile Range, New Mexico. The TFT was intended to verify the correction of NIK deficiencies identified in LUT 10 conducted in September 2010.
- Army Test and Evaluation Command executed a NIK LUT at White Sands Missile Range, New Mexico, in June 2011 in accordance with a DOT&E-approved test plan. This LUT was conducted in conjunction with the larger Army Network Integration Event (NIE). During the LUT, an MRAP-equipped infantry battalion with 25 NIKs executed a series of offensive, defensive, and stability missions during three 96-hour scenarios.

Assessment

- The TFT focused on three of the most significant NIK deficiencies identified in LUT 10. The results of the TFT indicated that these three deficiencies were successfully resolved.
 - NIK SINCGARS range and voice quality were demonstrated to be comparable to legacy SINCGARS.
 - NIK “warm” start-up times were significantly improved over LUT 10 and were within the 10-minute system requirement.
 - Army Research Laboratory’s Survivability/Lethality Division assessed the information assurance vulnerabilities identified in the LUT 10 to have been fixed.
- The TFT also examined NIK mobile network capability, including network re-join times, message completion rates (MCRs), and message latency. During the TFT, the NIK network demonstrated re-join times and message latencies within requirements and a satisfactory MCR of over 90 percent.
- During the 2011 LUT, the NIK provided the test unit two basic operational capabilities: tactical voice communications via the SINCGARS waveform and the capability for chat and file transfer among NIKs via WNW using the IBEX as the input device. Key findings from the 2011 LUT were:
 - Overall, the NIK had little impact on the test unit’s ability to execute its assigned missions. The NIK did not provide

any additional new capability of sufficient usefulness to have an effect upon battalion operations.

- The NIK demonstrated little usefulness at the company-level and below. The NIK data network was rarely used at these echelons. At the platoon-level, where 20 of the 25 battalion’s NIKs were to be found, the NIK was of little or no value, if not an actual hindrance to platoon operations.
- The IBEX file transfer capability was useful in sharing relevant mission command files such as operations orders and intelligence products between the battalion tactical operations center and the company command posts.
- SINCGARS range and voice quality and system start-up times and procedures were satisfactory.
- The NIK met its reliability requirements, demonstrating a Mean Time Between System Abort of 890 hours versus a requirement of 112 hours and a Mean Time Between Essential Function Failure of 89 hours versus a requirement of 37 hours.
- The capability of NIKs to form an effective mobile, ad hoc network was not addressed in this LUT. NIK’s operated predominately from stationary sites and relied primarily on fixed relay towers to establish communications connectivity, negating the need to establish a mobile, ad hoc network.
- Because the February 2011 E-IBCT ADM ended any further procurement of the NIK beyond one additional brigade set, the NIK program has completed its operational testing with the 2011 LUT. Subsequent to the 2011 LUT, the Army made the decision not to purchase the additional brigade set authorized in the E-IBCT ADM. Furthermore, in October 2011, the DoD decided to cancel the GMR program, the radio component of the NIK. The NIKs, which have already been purchased by the Army, may have some value as a test asset for future development of the Army’s desired WNW tactical network.

Recommendations

- Status of Previous Recommendations. The NIK program fixed the NIK problems identified in LUT 10. However as a result of the February 2011 ADM, there is no longer a requirement for further NIK operational testing.
- FY11 Recommendations. None.