

AN/PRC-117G

Executive Summary

- The Army intends tactical units to employ the AN/PRC-117G as a data radio. The radio will be used as an interim commercial off-the-shelf (COTS) solution until the Multi-Tier Networking Vehicle Radio (MNVR) is developed and fielded. The MNVR is intended to replace the cancelled Joint Tactical Radio System Ground Mobile Radio (JTRS GMR) program.
- The AN/PRC-117G radio is not a Program of Record. As a result, there is no acquisition strategy, documented requirements, or Test and Evaluation Master Plan. The Army has used an existing General Services Administration contract to purchase the AN/PRC-117G.
- The Army Test and Evaluation Command conducted an operational assessment of the AN/PRC-117G from October through November 2011 at Fort Bliss, Texas, and White Sands Missile Range, New Mexico, in conjunction with the Army's Network Integration Evaluation (NIE) 12.1.
- The AN/PRC-117G performed satisfactorily in transmitting digital Position Location Information. However, full AN/PRC-117G capability was not exercised or evaluated. AN/PRC-117G demonstrated satisfactory reliability and interoperability with the Rifleman Radio and its corresponding Soldier Radio Waveform (SRW) network.

System

- The AN/PRC-117G radio is a single channel voice and data radio that is capable of operating in a frequency range of 30 Megahertz to 2 Gigahertz. It can be configured for manpack, vehicular-mounted, or base station operations. The primary AN/PRC-117G waveform is the Advanced Networking Wideband Waveform (ANW2), which is a Harris Corporation proprietary waveform. The AN/PRC-117G is capable of simultaneously transmitting both Voice over



- Internet Protocol (VoIP) and digital data on a single channel. Digital data include file transfers, chat, streaming video, and position location reports. ANW2 allows units to use internet protocol routing to transmit medium to high bandwidth data traffic over tactical Very High Frequency, Ultra High Frequency, and L-band radio networks.
- The AN/PRC-117G radio is not a Program of Record. As a result, there is no acquisition strategy, documented requirements, or Test and Evaluation Master Plan.

Mission

The Army intends for tactical units to employ the AN/PRC-117G as a data radio. AN/PRC-117G will be an interim COTS solution until the MNVR is developed and fielded. The MNVR is intended to replace the cancelled JTRS GMR program.

Major Contractor

Harris Corporation – Rochester, New York

Activity

- The Army is purchasing the AN/PRC-117G as a COTS item to fill a capability gap for a tactical digital radio. With the October 2011 cancellation of JTRS GMR, the Army sought an interim solution to fill Brigade Combat Teams as a part of Capability Set 13. The Army has used an existing General Services Administration contract to purchase the AN/PRC-117G.
- The Army Test and Evaluation Command conducted an operational assessment of the AN/PRC-117G from October through November 2011 at Fort Bliss, Texas, and White Sands Missile Range, New Mexico, in conjunction with the Army's NIE 12.1. During this event, a cavalry squadron equipped with Mine Resistant Ambush Protected vehicles executed

typical cavalry missions in an Afghanistan-like scenario. A total of 26 AN/PRC-117Gs were used. These radios ran both the ANW2 and SRW.

- DOT&E has placed the AN/PRC-117G on oversight.

Assessment

- During the NIE event, the AN/PRC-117G performed satisfactorily in transmitting digital data. However, full AN/PRC-117G capability was not exercised or evaluated. The test unit only employed the AN/PRC-117G to transmit limited types of digital Joint Variable Message Format (JVMF) messages. The vast majority of the digital traffic was automated position location reports, with a small number

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of other JVMF messages pertaining to mortar fire missions. The unit did not employ the radio's voice capability, except in the case of the Rifleman Radio-equipped platoon. The AN/PRC-117G's capabilities for file transfer, transmitting streaming video, and chat were not employed in NIE 12.1, as the Army did not give the test unit the capability or opportunity to do so.

- The SRW successfully ran on several AN/PRC-117Gs, which allowed the Rifleman Radio-equipped platoon to transmit to the AN/PRC-117G the position location reports generated by Rifleman Radio-equipped Soldiers. From the AN/PRC-117G, these position locations crossed over to the ANW2 in the platoon leader's vehicle, enabling these position locations to be displayed at the troop and squadron level. This troop also successfully used the AN/PRC-117G running SRW for VoIP with Rifleman Radio-equipped platoon members.

- The AN/PRC-117G demonstrated a point estimate Mean Time Between Essential Function Failure (MTBEFF) of 511 hours, which exceeds the JTRS GMR single channel requirement of 477 hours MTBEFF. This result is over five times greater than the JTRS GMR reliability demonstrated in NIE 11.2.

Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
- FY12 Recommendation.
 1. The Army should conduct sufficient government developmental and operational testing to fully characterize system performance. A future operational assessment should be executed in which the test unit employs the system to its full capability, including streaming video, file transfers, chat, and VoIP.