

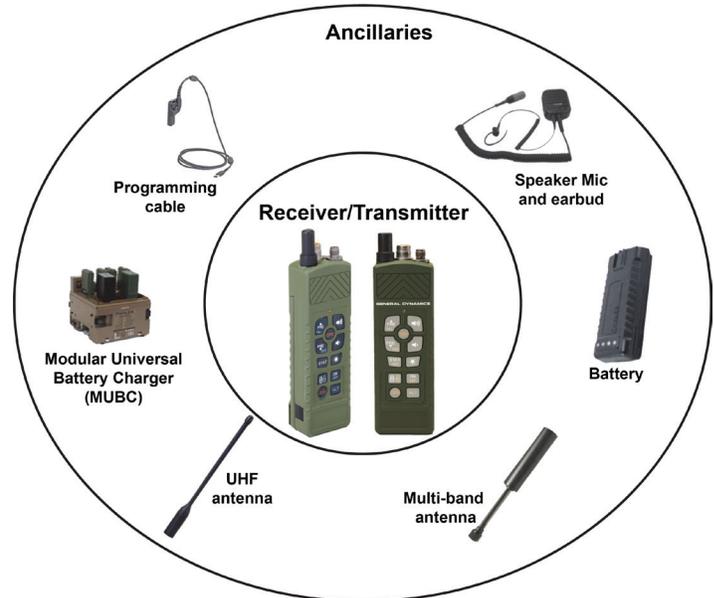
Rifleman Radio

Executive Summary

- The Army tested the AN/PRC-154A Rifleman Radio as part of the Nett Warrior IOT&E Phases 1 and 2 in accordance with DOT&E-approved test plans:
 - Phase I occurred in May 2014 during Network Integration Evaluation (NIE) 14.2 at Fort Bliss, Texas.
 - Phase II occurred in November 2014 at Fort Polk, Louisiana.
- The Army plans to use test results from the Nett Warrior IOT&E to support a materiel release of the currently fielded Low-Rate Initial Production Rifleman Radios.
- Voice communications are good when the radio has line-of-sight with other radios in open terrain.
- At the Nett Warrior IOT&E Phase II in November 2014, the AN/PRC-154A Rifleman Radio supported the operations of the infantry company's rifle platoons in woodland and urban terrain.

System

- The Handheld, Manpack, and Small Form Fit (HMS) program evolved from the Joint Tactical Radio System program and provides software-programmable digital radios to support the Army's tactical communications requirements. The two radios that comprise the HMS program are the AN/PRC-154A Rifleman Radio and the AN/PRC-155 Manpack radio (Manpack radio has a separate article earlier in this Annual Report).
- The Rifleman Radio is a handheld networking radio, with National Security Agency Type 1 encryption suitable for Secret communications and data.
- In addition to functioning as a stand-alone, handheld radio, the Army intends the Rifleman Radio to be the radio used as part of the Nett Warrior program. The Army is developing a vehicle-mounting kit for the radio.
- The Rifleman Radio is a single-channel radio with a commercial GPS receiver to:
 - Operate at various transmission frequencies using the Soldier Radio Waveform (SRW), which enables the radios



to form an ad-hoc data and voice communications network with other SRW-capable radios

- Provide 5 watts maximum power output in handheld, and 20 watts maximum power output in vehicle mount.
- Allow Soldiers to transmit position location information across the SRW network. The position location capability of the Rifleman Radio is disabled when connected to Nett Warrior.

Mission

Army leaders and Soldiers use Rifleman Radios to communicate and create networks to exchange voice, video, and data using the SRW during all aspects of military operations.

Major Contractors

- General Dynamics, C4 Systems – Scottsdale, Arizona
- Thales Communications, Inc. – Clarksburg, Maryland

Activity

- The Army tested the AN/PRC-154A Rifleman Radio in accordance with DOT&E-approved test plans. Testing was conducted as part of Nett Warrior IOT&E Phases 1 and 2:
 - Phase I occurred in May 2014 during NIE 14.2 at Fort Bliss, Texas.
 - Phase II occurred in November 2014 at Fort Polk, Louisiana.

- The Army plans to use test results from the Nett Warrior IOT&E to support a materiel release of the currently fielded Low-Rate Initial Production Rifleman Radio.
- The Army is conducting a full and open competition of the Rifleman Radio as required by the Defense Acquisition Executive for IOT&E and the Full-Rate Production decision.

FY14 ARMY PROGRAMS

- The Army continues preparation for a future Rifleman Radio operational test on the Rifleman Radio variant chosen during the full and open competition.

Assessment

- At the Nett Warrior IOT&E Phase 1 in May 2014 during NIE 14.2, leaders stated that voice communications were good until a terrain feature blocked line-of-sight.
- Soldiers had problems with the radio battery.
 - The battery temperature caused first-degree burns and discomfort. Sixty percent of the Soldiers reported that the temperature was in excess of 120 degrees Fahrenheit.
 - The battery stopped charging with the excessive temperatures. Post-test analysis discovered that by design, the battery stops charging at 118 degrees Fahrenheit, but still provided power.
- The radio continues to demonstrate the following suitability problems, which contributed to Soldiers concluding this radio was not yet acceptable for combat in its current Nett Warrior configuration:
 - Lack of a display screen for radio status as Soldiers change channels or prepare radio for operation
 - Battery not charging at temperatures above 118 degrees Fahrenheit and rapid battery depletion
- At the Nett Warrior IOT&E Phase 2 in November 2014, the Rifleman Radio supported the infantry company's rifle

platoons as they operated in woodland terrain with both voice and data communications.

- The Army corrected the deficiency of the radio battery not charging in high temperatures by modifying the battery firmware setting to allow charging at higher temperature limits, up to the high-temperature exposure limit of Military Standard-1472 (140 degrees Fahrenheit versus 118 degrees Fahrenheit).
- DOT&E will include a Rifleman Radio assessment in the Nett Warrior IOT&E report, which will be published in 2QFY15.

Recommendations

- Status of Previous Recommendations. The Army addressed the previous recommendations.
- FY14 Recommendations. The Army should:
 1. Continue to complete necessary Rifleman Radio documentation, including a Test and Evaluation Master Plan, to support future developmental and operational testing as part of the full and open competition.
 2. Continue to execute all future Rifleman Radio operational testing to support Full-Rate Production decisions with the Nett Warrior system.