

Handheld, Manpack, and Small Form Fit (HMS) Rifleman Radio

Executive Summary

- In November 2011, the Army conducted an IOT&E for AN/PRC-154 Rifleman Radio intended to support a Full-Rate Production Decision. DOT&E assessed the AN/PRC-154 to be operationally effective with poor reliability.
- From February through April 2012, the Army conducted Governmental Developmental Test (GDT) 2.3 and GDT 2.3a to complete developmental testing normally completed prior to IOT&E.
- In May 2012, the Defense Acquisition Executive (DAE) directed the Army to change the Rifleman Radio acquisition strategy to conduct a full and open competition. The DAE approved a second low-rate initial production (LRIP) purchase of 13,077 AN/PRC-154 radios.
- In 3QFY13, the Army approved an engineering change proposal to the Rifleman Radio LRIP contract to purchase AN/PRC-154A radios instead of AN/PRC-154 radios. The AN/PRC-154A Rifleman Radios have encryption capabilities to enable Secret and below communications. The AN/PRC-154 radios are not capable of Secret-level encryption.
- The Rifleman Radio program is schedule-driven. The Army did not complete developmental testing prior to IOT&E, fielded the AN/PRC-154 without verifying that problems discovered during IOT&E were fixed, and is planning to field the AN/PRC-154A in early FY14 prior to completing dedicated operational testing.

System

- The Army's Handheld, Manpack, and Small Form Fit program evolved from the Joint Tactical Radio System program and provides software-programmable digital radios to support the Army's tactical communications requirements.
- The Rifleman Radio is a handheld, networking radio. The AN/PRC-154 variant of the Rifleman Radio was designed with National Security Agency Type 2 encryption suitable for unclassified communications and data transfer. In 2013, the Army approved an engineering change proposal to the Rifleman Radio contract to begin procuring AN/PRC-154A variants 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 AN/PRC-154A variant to be the radio used as part of the Nett Warrior program.
- Both the Secret and unclassified variants of the Rifleman Radio are single-channel radios with a commercial GPS receiver that:
 - 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
 - Allow Soldiers to transmit Position Location Information across the SRW network

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

- On May 23, 2012, the DAE directed the Army to change the Rifleman Radio acquisition strategy to require a full and open

competition and approved a second LRIP for AN/PRC-154 Rifleman Radios.

ARMY PROGRAMS

- The AN/PRC-154 Rifleman Radio does not have the encryption required to handle Secret data. In 3QFY13, the Army approved an engineering change proposal to the Rifleman Radio LRIP contract in order to buy radios capable of transmitting encrypted Secret data.
 - The Army stopped buying AN/PRC-154 radios and began acquiring Secret-capable AN/PRC-154A radios.
 - The AN/PRC-154As have both hardware and software upgrades from the AN/PRC-154, and have not had a dedicated operational test. The AN/PRC-154A was tested as part of the Nett Warrior Limited User Test (LUT) in May 2013 during Network Integration Evaluation 13.2 in accordance with a DOT&E-approved test plan.
- The Army currently plans to test the AN/PRC-154A in a GDT followed by an IOT&E during FY14.
- The Army plans to field the AN/PRC-154A in early FY14, prior to the planned IOT&E.
- The Army continues preparation for a future Rifleman Radio operational test that will be conducted on the Rifleman Radio chosen during the full and open competition required by the DAE.
- The Army plans to field Rifleman Radio as part of a schedule-driven capability set. As a result:
 - The Army did not perform the necessary developmental testing required to ensure performance was known prior to the AN/PRC-154 Rifleman Radio IOT&E conducted in FY11. The first developmental test event was conducted prior to IOT&E. The Army conducted the remaining two planned developmental test events several months after the operational test.
 - The Army conducted the Nett Warrior LUT using the AN/PRC-154A radio with insufficient developmental testing.
 - The Army has fielded the AN/PRC-154 radio without an operational test demonstrating fixes to the problems discovered during the FY11 IOT&E.
 - The Army plans to field the AN/PRC-154A in early FY14, prior to any dedicated operational testing, and despite the performance and suitability deficiencies the radio demonstrated during the Nett Warrior LUT.

Assessment

- During Network Integration Evaluation 13.2 in May 2013, the AN/PRC-154A radio was part of the Nett Warrior system. As employed during the Nett Warrior LUT, the AN/PRC-154A:
 - Provided situational awareness and communications to leaders equipped with Nett Warrior
 - Demonstrated voice degradation at ranges greater than 500 meters
 - Did not support the full mission of a Cavalry Troop due to inconsistent communications and insufficient range for their operations
 - Demonstrated numerous suitability issues that contributed to Soldiers concluding that this radio was not yet acceptable for combat in its current Nett Warrior configuration--
 - Spontaneous rebooting
 - Taking excessive time to rejoin the radio network
 - Lack of a display screen for radio status
 - Battery overheating and rapid battery depletion

Recommendations

- Status of Previous Recommendations. The Army is addressing the previous recommendation to complete necessary Rifleman Radio documentation to support future developmental and operational testing by developing an acquisition strategy and Test and Evaluation Master Plan.
- FY13 Recommendations. The Army should:
 1. Ensure the AN/PRC-154A performance and suitability problems experienced during the Nett Warrior LUT are addressed prior to fielding the radio.
 2. Conduct dedicated operational testing of the AN/PRC-154A as soon as possible to characterize the performance of the radio to be fielded.
 3. Ensure that adequate developmental testing is performed prior to future operational tests.
 4. Complete necessary Rifleman Radio documentation, including a Test and Evaluation Master Plan, to support future developmental and operational testing.