

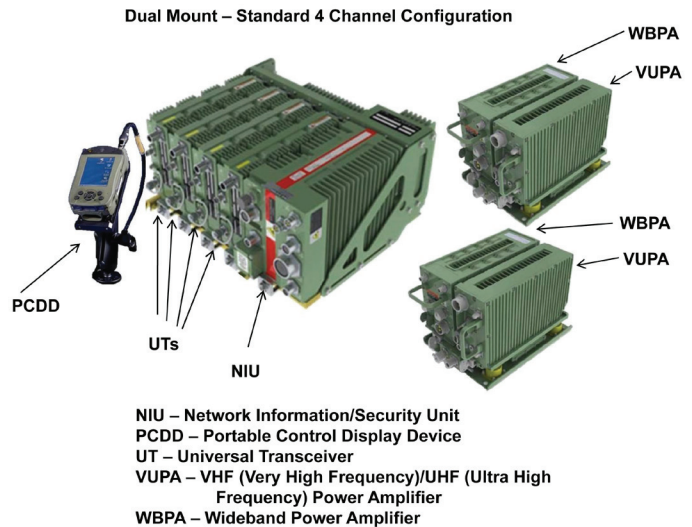
Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR)

Executive Summary

- Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR) continues to demonstrate that it has technically immature hardware, software operating environment, and software-programmable waveforms.
- In May 2011, the Army reported a Nunn-McCurdy critical cost breach of the JTRS GMR program. On October 14, 2011, the Defense Acquisition Executive published an Acquisition Decision Memorandum (ADM) that did not support certification and terminated the JTRS GMR program.
- The Army rescheduled its planned December 2010 Milestone C Limited User Test (LUT) from June to July 2011 due to performance and reliability problems noted during its 2010 GMR System Integration Test (SIT). The Army later downgraded the planned LUT to a Customer Test due to a Nunn-McCurdy breach and continuing performance and reliability problems that could not be fixed prior to the planned operational test.
- During the Customer Test, commanders found the GMR was not useful for combat operations due to deficiencies in size, weight, power consumption, lack of transmission range, complexity of operations, and poor reliability. The initial Army user report recommends stopping development of the GMR and not fielding it to operational forces.

System

- JTRS is a family of software-programmable and hardware configurable digital radios intended to provide increased interoperability, flexibility, and adaptability to support numerous tactical communications requirements.
- JTRS GMR components include a portable control display device, universal transceivers, a network/information security interface unit, and power amplifiers, which combine to create



radio sets for installation in Army and Marine Corps ground vehicles.

Mission

Commanders from the Army and the Marine Corps intend to use JTRS GMR to:

- Communicate and create networks to exchange voice, video, and data during all aspects of military operations.
- Interface with other JTRS product line radios and legacy radio systems in joint and coalition operations.

Major Contractor

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

Activity

- Due to poor JTRS GMR and Wideband Networking Waveform (WNW) performance during the 2010 GMR SIT, the Army delayed its scheduled December 2010 JTRS LUT until June 2011 to allow time for reliability and performance improvements.
- The Army downgraded the rescheduled JTRS LUT to a Customer Test due to deficiencies in JTRS GMR and WNW performance demonstrated during Field Experiment 5 in February – March 2011. The GMR Customer Test was conducted as part of the Network Integration Evaluation (NIE).
- During the Customer Test, NIE commanders attempted to use the JTRS GMR WNW network, but found the network was not

useful due to range limitations and poor reliability. Maneuver companies were equipped with 100-foot towers to mitigate the poor performance of the WNW network. The radio's performance did not meet the unit's expectations for range and reliability even with 100-foot towers.

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- The JTRS GMR has an approved 2008 Test and Evaluation Master Plan with requirements based upon the 2006 JTRS Operational Requirements Document 3.2.1.

Assessment

- The FY11 JTRS GMR schedule delays were due to technically immature GMR hardware, software operating environment, and waveform software.
- The GMR NIE did not demonstrate the WNW mobile ad hoc network capability. The presence of numerous 100-foot towers (contractor-installed), aerostats, and retransmission mission vehicles created a static WNW network and static company command posts.
- The Army's Brigade Modernization Command (BMC) conducted a review of the JTRS GMR during the NIE. The BMC report noted numerous deficiencies including size, weight, excessive power requirements, significant heat output, complexity of operation, and lack of GMR reliability. The BMC recommended that GMR development be stopped and that the Army not field the GMR.
- The WNW has not demonstrated that it is a viable waveform that can support the operational needs of commanders when units are tactically dispersed.
- JTRS GMR was not reliable in NIE. Reliability was 125 hours Mean Time Between Essential Function Failure versus a 466-hour requirement.
- The joint WNW network manager is not an effective tool to manage the WNW network. Soldiers preferred the commercially-available Simple Network Management Protocol Console software for WNW network management. There are no other JTRS-developed network management capabilities for the other waveforms hosted on the GMR, such as the Soldier Radio Waveform.

Recommendations

- Status of Previous Recommendations. All previous recommendations remain valid.
- FY11 Recommendation.
 1. The program should complete the requirements contained within the October 14, 2011, JTRS GMR Nunn-McCurdy Review ADM.