Test and evaluation of the MSE system

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by Monroe Timmons

Normal acquisition requires two types of testing: developmental and operational. However, since the MSE system is a nondevelopmental acquisition with major elements already in production, no formal government developmental testing is currently envisioned. Operational testing will be conducted as part of the Continuous Comprehensive Evaluation (C2E) Program.

The MSE C2E is the evaluator's plan to ensure that the whole acquisition scheme continually assesses the operational effectiveness and suitability of the system. It is a coordinated effort which continuously will involve both the test communities and independent evaluators in the evaluation process. Existing data from all tests, both contractor and government, will be used in the evaluation. The overall test and evaluation goal is to reduce formal testing without losing the comprehensive data required for a valid assessment of the operational effectiveness of MSE as a system.

The U.S. Army Operational Test and Evaluation Agency (USAOTEA), the designated test and evaluation agency for the MSE system, participated in the demonstration of the selected system that was conducted at Nancy, France in March of 1985. The GTE candidate demonstrated operational performance in five functional areas (subscriber terminals, mobile subscriber access, wire subscriber, area coverage, and system control). The demonstration was conducted in both garrison and tactical environments with nodes being separated by distances typical of an employment scenario. The nodes were operated by a mix of contractor personnel, host nation personnel, and U.S. soldiers.

Two further tests are scheduled: an operational assessment (OA) and a follow-on operational test and evaluation (FOTE). Both will test the MSE system while it is being operated by targeted users.

The 1st Cavalry Division, Fort Hood, Texas, which will receive the first MSE equipment, will be the FOTE unit. The purpose of the FOTE, which will be independently managed by USAOTEA, is to further assess the operational suitability and overall effectiveness of the equipment. The detailed test design plan developed by USAOTEA will contain field scenarios typical of combat, combat support, and combat service support unit employment consistent with the TRADOC developed operational mode summary (OMS) and mission profile. The OMS, using the failure definition code scoring criteria, will provide the baseline for the system reliability model. The FOTE will test MSE's interoperability with current inventory and emerging communications systems, and its ability to function in a degraded network or a hostile electromagnetic environment. During the FOTE, the MSE system will be operated and maintained by soldiers of the 1st Cavalry Division. They will receive new equipment training (NET) typical of that to be provided in the resident courses. This training, conducted by the contractor (GTE) at Fort Hood, Texas, will also be evaluated by USAOTEA during the FTX and FOTE. Though only one division's MSE equipment will be tested, the use of network loading devices during the test and simulation/modeling after it will enable evaluators to predict the MSE performance for a corps.

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