MSE key to Desert Storm communications

by Louise T. Cooper

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Ground forces stayed in touch with commanders in Operation Desert Storm thanks to the Army's new battlefield phone system developed at Fort Monmouth, NJ.

The Mobile Subscriber Equipment (MSE) system—the Army's latest, mobile telecommunications system developed by Army military and civilian engineers—could put a cellular phone in every jeep, armored personnel carrier and truck. The digital radio system can send and receive facsimile and computer data at 16,000 bytes per second.

The system provides mobile, secure voice and data communications to an Army corps area. Each of the Army's five corps worldwide will be equipped with enough mobile base stations to cover an area the size of Massachusetts, Rhode Island and Connecticut. The system, which will total 25,000 phones, automatically reroutes calls around base stations that are jammed or destroyed.

So far, MSE has been delivered to III Corps, stationed at Fort Hood, Texas. First Cavalry Division, a division under III Corps, was among the units deployed in Saudi Arabia.

"We've force modernized an entire corps at once," said COL David Gust, MSE's project manager. "By the time we've finished with III Corps, we will have fielded four National Guard battalions and six active duty units in the corps.

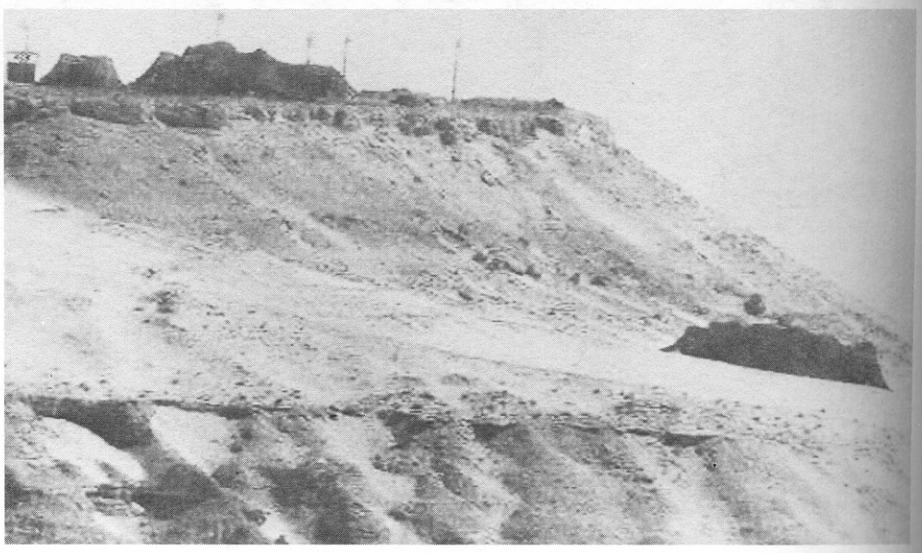
When MSE was installed in Saudi Arabia for Operation Desert Storm, it marked the first time MSE had been deployed in a hostile, desert environment, according to Gust. He also said the equipment did well in extreme weather conditions and earned high praise from the soldiers who used it.

The system has also been delivered to V Corps and units in Europe. In addition, the Army has advanced MSE fielding dates for Fort Lewis, Wash., and Fort Drum, New York.

"That's a significant challenge," Gust said. "It takes 18 months to get everything in place. We'll field these two units with eight months lead time."

The soldiers will have new jobs along with a new TOE.

The MSE project manager will ask the unit to turn in all the old Signal equipment to the supply system for a



project called battlefield communication review. Some of the equipment gets refurbished at the depot and some is reused or refielded to someone else.

A certain amount of their equipment they retain; for example, they keep their tents and water trailers. The MSE team comes in with the contractor, GTE, and fields them with new communications equipment. About 25% of all the equipment they will need is provided by the contractor.

The CECOM Readiness Directorate at Fort Monmouth fields them with MSE delta, according to Gust. That's the additional trucks, water trailers and tents that they get in the unit. The battalion gets an extra company assigned to it after it makes the transition.

"We spread it into two parts with the Readiness Directorate doing the delta and the contractor supplying the actual Signal equipment," Gust said.

This technique is called total package fielding. The troops have been trained, they've received all the trucks, generators, all the pieces of the TOE equipment they need to function in the organization. They've been given the new Signal equipment to do the mission.

"The Army has fielded 15 battalions out of 48," according to Gust, which makes it about 40% fielded.

"Value engineering has played a big part in the modification portion of the MSE program," Gust said. "The Army saved $200 million on value engineering change proposals turned in over the last four years."

During the early developmental stages for MSE, the Army would build fielding and training sites at every post. When the Army fielded the New Jersey National Guard at Camp Edwards, Mass., GTE suggested one consolidated location for testing rather than building a new fielding site at every location. This suggestion saved the program $14 million according to Gust.

Army officials are planning modifications to the MSE system referred to as non-developmental, or off-the-shelf. Modifications are needed to include packet switching.

"V Corps has been fielded with option year three hardware," Gust said. "The MSE team will take their hardware for a month or so and retrofit it to the final configuration."

"The modifications were paid for out of the money saved from value engineering proposals," Gust said. "Not from additional money from Congress."

It took two years for III Corps, TRADOC and OTEA to field, school, test and evaluate MSE prior to fielding it to the rest of the Army.

The first hardware was fielded in 1987 to Fort Gordon, Georgia, and the First Cavalry Division at Fort Hood, Texas. MSE was tested and evaluated in 1988 by OTEA, and in 1990 for a third operational test. Follow-On Evaluation at the corps level is planned for 1992.

During March, 1990, III Corps at Fort Hood conducted a field verification test. This test proved that MSE could complete 9 calls out of 10 without getting blocked.

"This translates into a 90% Grade of Service," Gust said. "This high level is comparable to engineering criteria used by commercial telephone companies. The older Signal equipment used to achieve a 65% Grade of Service on a good day."

Ms. Cooper is a writer for U.S. Army CECOM Public Affairs Office, Fort Monmouth, N.J.

Operation Desert Storm marked the first time MSE had been deployed in a hostile, desert environment. (US Army photo)