number of components from 18 to six, compared to the TOW 2, and a modular design that requires no special tools. The BIT/BITE fault isolates to a specific component and eliminates the need for organizational test equipment. The built-in automatic boresight eliminates the 180-day verification test requirement. The only scheduled maintenance action is to replace the BPS batteries at the end of their useful life.

The TRADOC System Manager, Close Combat Missile Systems, and the Close Combat Missile Systems (CCMS) Project Office, are continually working to improve the TOW ITAS. Funded improvements include: a vehicle commander's display for viewing the TAS thermal image, a TAS mount for either the AN/PAQ-4A/C infrared aiming light or AN/PEQ-2A target pointer/illuminator, an improved FCS that will enable the incorporation of enhanced target tracking, and a lithium (Li) Ion BPS. The Li Ion BPS uses the state-of-the-art technology of the electric vehicle battery and will reduce BPS weight, provide longer silent watch, faster recharge times, and a greater useful life. By the end of 2002, the CCMS Project Office also plans to demonstrate the versatility of the TOW ITAS by firing a Javelin missile.

A modified version of the TOW ITAS will be used on the antitank guided missile (ATGM) variant of the interim combat vehicle (ICV) for the interim brigade combat team (IBCT). Modifications will be made to mount TOW ITAS components in a turret, remote the video into the vehicle, and accommodate a dual-tube launcher. This system will provide the medium force with all the capabilities the TOW ITAS-equipped light infantry now has. The TOW ITAS and the LRAS3 are the only second generation FLIR systems in the IBCT; as a result, the ATGM company will find itself assigned many key roles to support IBCT operations.

The TOW ITAS provides the Army's light and medium forces many of the same capabilities currently being fielded on the M2A3 in the heavy counterattack corps at Fort Hood, Texas. Threats, simulated or real, should beware of the immense capabilities TOW ITAS equipped units have to detect, recognize, and identify potential targets and the multitude of ground and air systems that can be summoned to respond.

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Get Volcano Mines Into the Fight

COLONEL THOMAS K. LITTLEFIELD, JR.

According to Field Manual (FM) 20-32, *obstacle emplacement authority* is the jurisdiction that a unit commander has to emplace tactical obstacles. In a theater of operations, theater commanders have the authority to emplace obstacles. In most cases they delegate this authority to corps commanders who further delegate it to division commanders. Division commanders then have obstacle emplacement authority in their area of operations, unless that authority is withheld or restricted by a higher commander. Commanders subordinate to corps and division do not have the authority to emplace obstacles unless the higher commander delegates it for a current operation.

During my time as a combat engineer commander and staff member, I have had difficulty getting authority for using our organic Volcano systems. Often we can get authority for four-hour duration mines. The problem comes when we request 48-hour or 15-day duration mines. I have occasionally received 48-hour permission, but never 15-day permission. At the same time, I have had permission to use conventional hand-emplaced mines that cannot have a self-destruct capability. These are armed and deadly until removed or destroyed.

Why is permission to use a temporary mine denied while permission to use a permanent mine is routinely granted? The normal reasons that I have been given for denial are concerns about fratricide and constraining future maneuver. Both of these concerns can be mitigated. Before any land Volcano System can be used to emplace a minefield, fratricide prevention fences must be erected, just like those used for conventional hand-emplaced minefields.

The future maneuver concerns can be mitigated with the use of lanes. Lanes can be left in the Volcano minefield, and they can be closed with Modular Pack Mine Systems (MOPMS). They can also be opened with the self-destruct feature of the MOPMS.

As we move to the future we must get used to replacing conventional hand-emplaced mines with scatterable mines. We need to do this for three primary reasons—reduced logistical requirements, faster emplacement times, and smaller manpower requirements.

From a logistical viewpoint, a Volcano antitank mine weighs about four pounds, as opposed to the conventional M-15's 30 pounds. This is more than an 85 percent reduction in weight for countermobility logistical requirements. Two soldiers with one vehicle can emplace a 1,000-meter minefield in about

10 minutes, while it takes an engineer platoon 10 hours to emplace a surface-laid conventional minefield of the same length.

This is extremely significant when you consider the reduction of the number of sappers in combat engineer companies. When I was a company commander, my company had nine ten-man sapper squads. As a brigade commander, my companies had six eight-man squads. The last version of future divisional engineer companies that I saw had four eight-man squads. In combat engineer companies, the 90 sappers have been reduced to 32. This greatly reduces the ability to hand-emplace mines in a time-constrained situation. We have to depend upon scatterable mines emplaced by the Volcano system.

We need to use Volcano as routinely as we would use conventional mines. We need to let people know it's all right to use them in the 15-day mode if the situation dictates. I have found that the brigade commanders I supported didn't routinely plan 15-day Volcano minefields, because they couldn't count on getting the required authority. Instead their fall-back was to depend upon conventional mines.

RECOMMENDATIONS

Use specific obstacle restrictions for specific reasons; do not use blanket restrictions simply because "that's the way we've always done it" or "that's the way we did it at NTC."

Allow people on the ground to determine the best way to fight their ground, especially if they are assigned a *defend in sector* mission.

Use Volcano to make up for reduced sapper manpower, to provide faster obstacle emplacement, and to reduce the obstacle logistics.

Develop unit rapid mine teams and drills using Volcano.

Mitigate fratricide concerns with protective fences.

Mitigate future maneuver concerns with lanes and closure with MOPMS.

We have an army that is based on decentralized mission command, but routinely restricts the use of Volcano. The same commanders who impose these restrictions don't think twice about delegating conventional mine emplacement authority to the battalion level.

My message to commanders is: Don't unnecessarily restrict subordinate commanders by routinely withholding authority for Volcano. Withhold the authority only as you would for conventional mines. Don't restrict commanders from bringing all their combat multiplier systems into the fight. Let them know what their Volcano assets are and allow them to use them.

Use specific and not blanket restrictions. A commander would never assign a defend-in-sector mission to a subordinate commander while withholding the use of organic weapons. They need to do the same for Volcano. If they don't, this valuable tool will never be used to its potential. It will not make up for the lack of sapper manpower, and it will not reduce the logistical requirement for tactical obstacles.

Appropriate use of the Volcano system won't get better until maneuver commanders demand it, plan it, and do it. Don't stand for being any more limited than you would be with your main weapons systems.

Colonel Thomas K. Littlefield, Jr., is a 1975 graduate of the United States Military Academy. He has served in various combat engineer units, commanded a battalion in the 101st Airborne Division, and commanded a brigade in the 2d Infantry Division in South Korea. He is currently an instructor in the Department of Military Strategy, Planning and Operations, at the Army War College.

Effectively Using Interpreters

MAJOR PAUL J. SCHMITT

As this country's land-fighting component, the Army has needed and employed interpreters in every engagement throughout its history. And because of increased force projection requirements, the need for skilled linguists is growing.

On the strategic level, the Army has made great strides in developing programs for military interpreters, foreign area officers, and the Korean augmentees to the U.S. Army, just to name a few. But the Army must also improve the tactical education of its leaders on how to employ interpreters.

Small-unit commanders and leaders in an engagement area are often the ones most in need of interpreters, but also often the ones who have the least idea of how to use them properly. This article will examine issues involving interpreters and address questions pertinent to you, the small-unit leader.

For maximum effectiveness, leaders should consider carefully the selection, preparation, and use of the interpreter in each individual circumstance. The sequential steps, as you will see, influence each other.

Selection can come from two sources—military and local-hire civilian. Military interpreters can be specially trained, uniformed servicemen, or contracted American citizens. A military, uniformed interpreter with a security clearance is the most desirable, but the demand on military interpreters makes them scarce. In fact, you are not likely to encounter one under normal circumstances. As a result, local-hire