Wake Up Again, Engineers!

By Lieutenant Colonel Don T. Riley

The April 1993 issue of *ENGINEER* contains a Personal Viewpoint article by LTC Bill West with a similar title. LTC West states several good reasons why engineers have become a lesser member on the combined arms team. His prescription for getting us back on the first string in heavy divisions is to replace our M113 and combat engineer vehicle (CEV) with the Bradley fighting vehicle (M2) and the Abrams tank (M1), respectively. This is a valuable step; however, it may be a slippery step as well.

If we are not careful, it just might lead us down the path toward a structure with little or no engineers—an infantry/armor-heavy structure with "combat engineering" work accomplished by 11Ms (infantrymen) and 19Ks (tankers). If we don't perform well as engineers, we will never be of much value to the combined arms team—regardless of what type of equipment we have.

Back to the Basics

I'd like to suggest that the best and quickest way for us to regain our stature on the team is to get back to the basics of combat engineering. The first step is good engineer staff work based on a solid knowledge of the terrain and its implications. A thorough, insightful engineer estimate is the answer.

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The commander who has a good feel for the terrain and knows the best way to use it to his advantage has significant leverage. This knowledge translates directly to increased agility on the battlefield and, thus, greater combat power. Clearly, the proper use of terrain can be decisive in battle. It is our responsibility as engineer staff officers to know the terrain and then to communicate that knowledge to the commander so that he clearly understands its impacts on his operation.

Over the past 10 years, we (and I include myself as a culprit in this) have unwittingly allowed the military intelligence community to assume the role as the commander's primary terrain analysis experts. The Intelligence School developed a superb methodical and systematic approach to staff analysis, the intelligence preparation of the battlefield (IPB). It includes an analysis of the terrain and its effects on operations (OKOKA) and how the enemy will likely use the terrain to his advantage. In addition, an engineer terrain detachment is assigned to the Division G-2 to support the IPB. As a result, the commander now looks to his S-2 or G-2 more often than not for terrain analysis. We cannot allow this to continue or we may be one of the "first to feel the knife in future budget cuts," as LTC West implies.

In my experience (albeit limited), engineers don't analyze terrain well. This, however, is only a recent development. There are many historical examples of engineer staff officers who were adept at terrain analysis. Typically those engineers became essential to their commanders and one of the most, if not the most, trusted and important members of their staff. Perhaps the best known examples are Napoleon Bonaparte and his chief of staff (a geographical engineer), Marshal Alexandre Berthier; General Winfield Scott

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The allied forces conducted a very successful defense at Khe Sanh. Analysis of the battle is significant, however, because it emphasizes three basic military fundamentals: initiative, use of terrain, and synchronization. These tactical principles play an important role in modern U.S. Army doctrine, and prudent use of them will make the U.S. more successful in future wartime operations.

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Endnotes

[1]Shore, Moyers. *The Battle for Khe Sanh*. Washington: U.S. Marine Corps, 1969, p. 180.

[2]Shore, p. 47.

[3]Bonds, Ray. *The Vietnam War*. New York: Crown, 1979, pp. 156-157.

[4]Bonds, p. 157.

[5]Pipes, Kenneth. "Men to Match Their Mountains." *Marine Corps Gazette*. April 1974, pp. 18-24.

[6]Shore, pp. 37-39.

[7]Shore, p. 15.

[8]Shore, p. 40.

[9]Shore, p. 25.

[10]Shore, p. 124.

[11]Shore, p. 17.

[12]Shore, p. 184.

[13]Westmoreland, William. *A Soldier Reports*. New York: Doubleday, 1976, p. 422.

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(Personal Viewpoint, continued.)

and one of his brightest engineer staff officers, Captain Robert E. Lee; and Lt. General "Stonewall" Jackson and his topographer, Major Jebediah Hotchkiss.

Thorough staff work, joint study of the terrain, and discussion of the impacts of terrain on operations characterized the operations of each of these engineer-commander teams. We must return to the basics used by these engineers. Berthier and Napoleon crawled together over large maps on the floor and studied the area of operations in detail to prepare for the Grand Armee's movements. Lee conducted a thorough route and enemy reconnaissance and even guided forces in the attack for Scott's army against Santa Ana at Cerro Gordo. Hotchkiss conducted reconnaissance, drew maps and sketches with different colored pencils for clarity, and guided forces for Jackson in the Shenandoah Valley. Each of these commanders was sure of his position and thus acted boldly in these operations.

Develop Potential

Engineers have great, untapped potential. We have tremendous reconnaissance capability with engineer forces deployed throughout the area of operations. We know how to analyze the terrain, we have magnificent analysis potential with Terrabase, we produce terrain products, and furthermore, we can *influence* the terrain with engineer combat power. But we must develop this potential with continued training on how to use the terrain to our best advantage. This training must include details such as weapons ranges, how to determine intervisibility lines, how to build an engagement area, and how to conduct direct fire analyses.

Additionally, the Engineer School has made great progress in staff analyses during the last several years by developing the heart of the engineer estimate, the engineer battlefield assessment (EBA). The EBA is a simple and straight-forward process that includes an analysis of terrain and weather and the capabilities of both enemy and friendly forces. The school teaches the EBA process in officer basic and advanced courses and in precommand courses.

What the field needs now is the EBA codified into a clear, easily used, systematic process similar to the Military Intelligence School's FM 34-130, *Intelligence Preparation of the Battlefield*. The EBA appendix in FM 5-71-100 is a good start. I propose that the Engineer School expand this appendix into a complete handbook for all engineer officers. The handbook should describe each step of the EBA process in detail and include appropriate examples. The means of graphically portraying the analysis to the commander would be the most valuable part of the handbook.

A thorough knowledge of the terrain and a staff estimate of real value to the commander will do more for combat engineering in the short term and the long term than will M1s and M2s. We can do better!

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