CTC Notes

Battle Command Training Program (BCTP)

Integrating Smoke in the Mobility/Survivability BOS

By Lieutenant Colonel Ron Light and Major John Kulifay

If you are an "old soldier," you may recall a time when engineers were not fully integrated in the combined arms team. Engineers often had to "fight" to be heard, to secure a seat at the planning table, and so on. Due largely to the efforts of the combat training centers, I believe that this has changed. For example, during Warfighter exercises conducted by the Battle Command Training Program (BCTP), engineers are integrated in all stages of the military decision-making process and across the depth of the division zone. Brigade and division commanders seek the advice and counsel of their engineers. Thus, we are now a relevant, potent force on the battlefield.

However, engineers are only part of the mobility/survivability battlefield operating system (BOS). Division-level chemical staffs bring chemical detection, decontamination, smoke generation, and other capabilities to the fight. In particular, our experience during recent BCTP Warfighter exercises indicates that staffs must do more to integrate the use of smoke in plans and orders.

In light of the maneuver-support concept (which includes military police, who are not discussed here), and the fact that we are large consumers of smoke during river-crossing and breaching operations, engineers must take the lead in integrating our Chemical Corps brethren's smoke-employment expertise. If your first reaction is to dismiss this notion, perhaps you are not aware of the role that obscurants have played throughout the history of warfare and the great effects they can provide toward achieving success.

Pick a conflict, and you'll probably find that effective use of obscurants made a difference. As early as 2000 B.C., soldiers burned damp straw to smoke enemy positions. At Legnica, Poland, in 1241 A.D., the Mongols used smoke to separate foot soldiers and horsemen. Combatants in the 20th century have used smoke during every major conflict as well. The recently fielded M56 wheeled Smoke Generator System (SGS) and tracked M58 SGS have modernized our inventory of smoke-generating equipment.

Despite historic examples that showcase the effectiveness of smoke and recent improvements in equipment, our experience during BCTP Warfighter exercises shows that chemical staffs often are not integrated in the division fight. Where it was once engineers who fought for a seat at the table, now it's the chemical officers who fight for a seat. It is time that engineers facilitate the integration of chemical staffs, particularly for planning smoke operations on the battlefield. The importance of planning and executing smoke is clearly stated in FM 90-13, *River-Crossing Operations*, and FM 90-13-1, *Combined-Arms Breaching Operations*.

Chemical Corps doctrine (FM 3-50, *Smoke Operations*, and FM 3-101-1, *Smoke Squad/Platoon Operations*) provides the tactics, techniques and procedures units use to employ smoke at operational and tactical levels of war. Smoke has four battlefield applications:

- **Obscure.** Smoke is delivered directly on or immediately in front of enemy positions.
- **Screen.** Smoke is delivered on friendly forces or between friendly and enemy positions.
- **Protect.** Smoke is employed to defeat enemy guidance systems.
- **Mark.** Smoke is used to mark targets and identify friendly positions and prearranged communications.

Combat training centers provide the venue to plan and execute these smoke operations. Whether it is mechanically generated or emplaced by a soldier with a smoke pot, smoke is an effective combat multiplier. During BCTP Warfighter exercises, units that integrate chemical staffs and smoke operations on the battlefield generally are more successful than those that do not. Without early integration of the chemical staff's plans, smoke operations often are an afterthought, if they occur at all, and rarely are synchronized or effective. Planning for smoke should be accomplished at the division level. All too often, smoke assets are task organized to a brigade, where they are further task organized into smoke squads that are incapable of producing large areas of smoke. As one chemical officer noted, when that happens, smoke tends to be a beacon rather than an obscurant.

Figure 1 depicts a brigade-level river-crossing operation. While screening smoke was planned at brigade level, there was no division-wide smoke plan. The brigade generated smoke at a site along a major river, which the enemy observed and correctly surmised to be a river-crossing site. Note that little smoke was used elsewhere in the division zone; there was no plan to do so in support of the brigade river crossing.

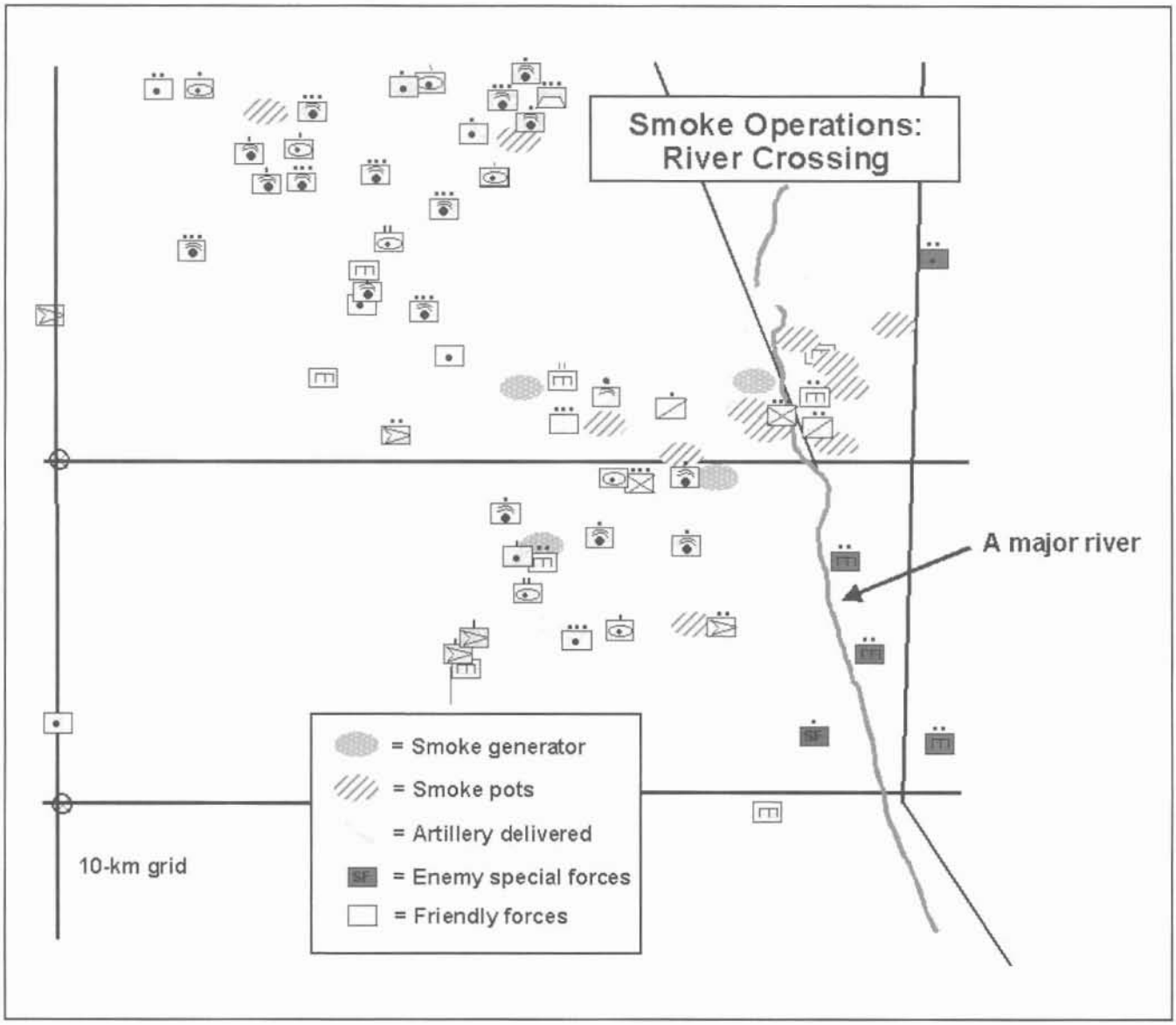

Figure 1

The use of smoke at only one place on the river made it easy for the enemy to detect and interdict the brigade's river-crossing operation.

Compare Figure 1 with Figure 2. In Figure 2, the chemical staff officer created an integrated, synchronized *division-wide* smoke plan that supported two brigade-level river crossings. Instead of using smoke at only a few places on the battlefield, the enemy was faced with many smoke events. The division executed screening and obscuring smoke across the depth of its zone. Accordingly, the enemy faced a dilemma with respect to potential river-crossing sites: *With limited assets, where should I send reconnaissance forces to look first? What do I target?* The enemy required additional time to identify the locations of river-crossing sites, and friendly forces conducted two successful crossings during that time. This is a classic example of "getting inside the enemy's decision cycle," and effective smoke integration made it happen.

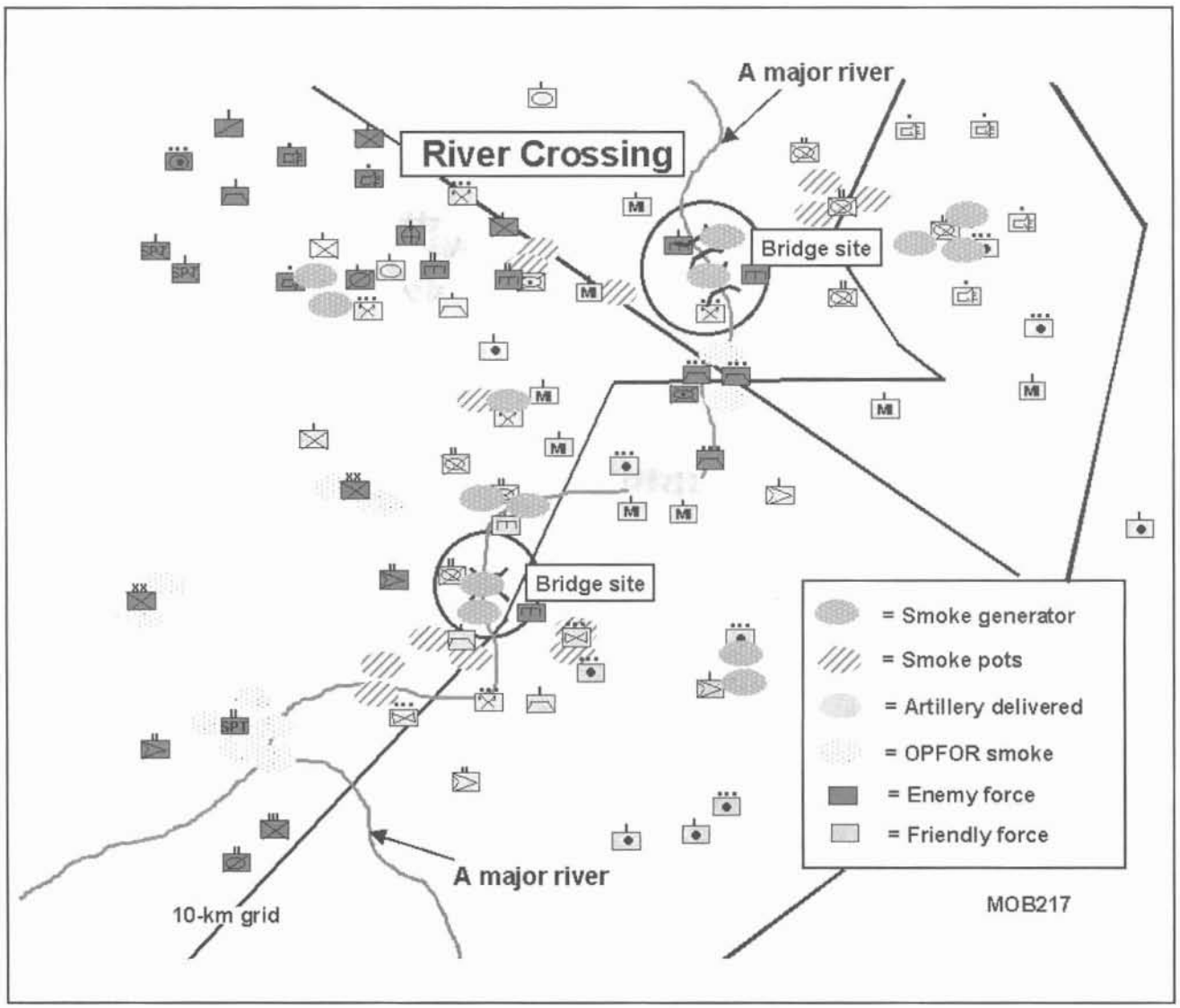

Figure 2

In most theaters of operation, we can expect large numbers of enemy reconnaissance forces. An effective smoke plan can help protect the force. Figure 3 shows a convoy of assault float bridge companies travelling to a river-crossing site. The enemy often includes engineers on his high-payoff target list, and in this case bridging assets were a priority target. Because these bridging units received no force protection from smoke operations, enemy forward observers (in this case special-purpose force [SPF] teams), brought effective fires on the convoy and partially destroyed it before the convoy could reach the river.

Figure 4, page 30, depicts effective smoke operations that enhanced force protection, again during multiple brigade-level river crossings. Note the location of enemy SPF teams, which are located along templated river-crossing sites. In this Warfighter exercise, friendly smoke was used effectively to blind the enemy's reconnaissance effort. Both river crossings were executed successfully.

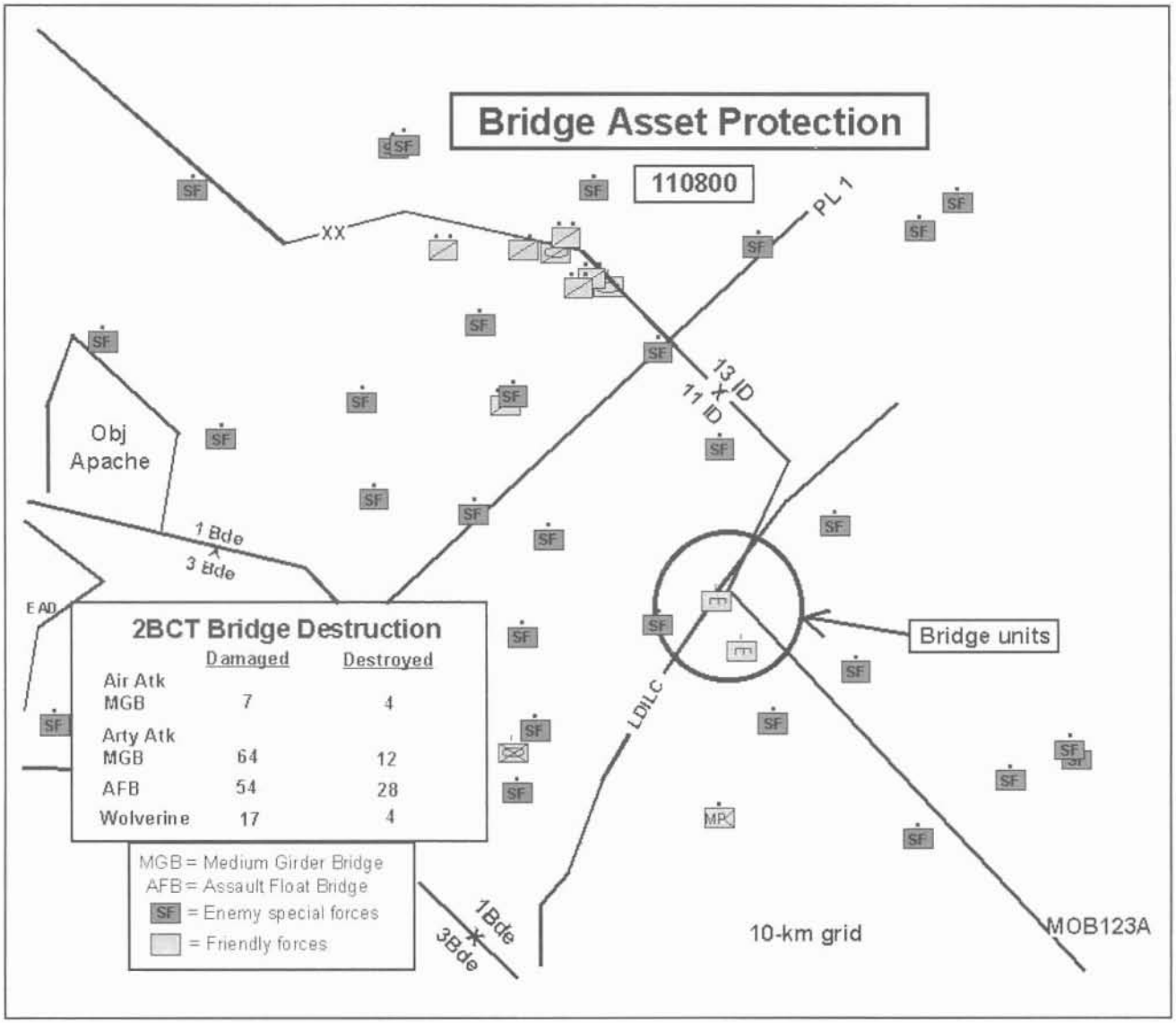

Figure 3

River-crossing and force-protection operations are just two examples where effective smoke support can make a difference. Successful obstacle breaching also relies heavily on effective smoke support. A less used role for obscurants may occur when the defense is developed. There probably are other missions where smoke can be applied with positive effect. However, if the chemical staff is not integrated early in the planning process, this resource will be under- or unutilized.

The fire-support community often states, "No idle guns!" Similarly, engineers exclaim, "No idle blades!" As we transition to the maneuver support concept, let's not miss an opportunity to integrate the chemical staff's expertise in what we do to support the combined-arms team. Engineers are in the right place and this is the right time to secure a seat at the table for chemical staffs. Since smoke support makes us effective, we should lead the way in declaring, "No idle generators!"

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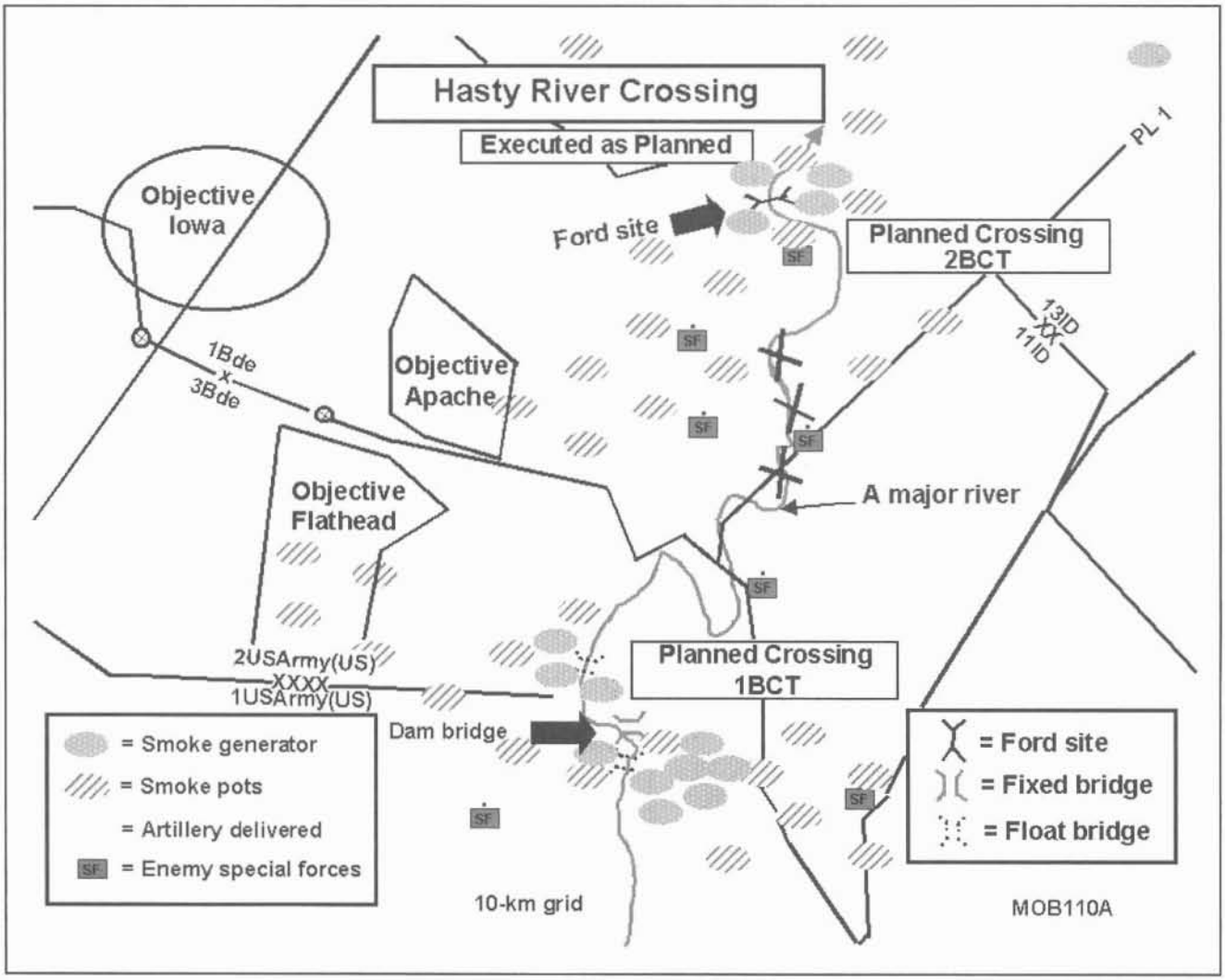

Figure 4

Joint Readiness Training Center (JRTC)

The Engineer Battlefield Assessment and Mission Analysis

By Major Jeff Baker

We are observing a trend at the Joint Readiness Training Center (JRTC) concerning the engineer battlefield assessment (EBA) and how it impacts engineers' ability to be viable members of the combined arms team. That trend is our observed inability to understand the purpose and end state of the EBA process. As a result, engineers rarely provide the maneuver commander with information during a mission analysis briefing (or targeting meeting) that is of any true value to his decision process. Engineer planners experience these difficulties because they do not understand the purpose of the EBA or tie it to the engineer estimate, which ultimately supports the military decision-making process (MDMP); nor do they understand the difference between "state" and "status." Many engineer planners believe the EBA is an engineer-specific document that is of little use for anyone other than engineers. Therefore, many units don't even produce a written EBA.

This article briefly describes the purpose and importance of conducting a thorough EBA as part of mission analysis. It is the first in a series of articles to be published in *Engineer* to discuss details of the EBA and mission analysis.

The "Substandard" Engineer Mission Analysis Worksheet

The following is an example of what we routinely observe as an EBA product.

Assets Available:

- Two light sapper platoons
- One mechanized engineer platoon
- Five dozers
- Eight small emplacement excavators (SEEs)

Specified Tasks:

1. Emplace obstacles in Obstacle Zone A.
2. Provide survivability support to the brigade task force.
3. Emplace a division-directed obstacle at WQ12345678.
4. Plan one scatterable minefield.
5. Submit obstacle plans to division NLT 231800Z FEB 99.

Implied Task: Be prepared to clear Route Falcon in support of the division counterattack.

Constraint: Division NLT defend time is 251800Z FEB 99.

Limitations:

- Authority to destroy bridges is reserved by the joint task force commander.
- No obstacles within 50 meters of Main Supply Route Raven.

If we ever see an EBA, this one is as good as it gets. What's wrong with this worksheet? All the planner did was pull elements from a higher order—no analysis was applied to the information. A properly prepared worksheet should give the supported commander details concerning the exact capabilities of engineer forces. It should list capabilities in terms such as number of breach lanes possible, number of protective positions engineers can construct in a given time period, linear meters of minefield engineers can emplace, minimum time required to clear/repair a flight landing strip given the type of soil and anticipated obstacles or damage, etc. Bottom line—we must *focus* our effort! Additionally, the above worksheet does not help the commander understand the mobility/survivability tasks required or the current state of the mobility/survivability operating system.

Purpose of the EBA

Simply put, the EBA is a mission-analysis tool that provides a structured way of conducting a detailed staff estimate. By following its format, the planner obtains a clear understanding of enemy engineer capabilities (which may produce additional implied tasks) and assists the task force S2 in preparing the intelligence preparation of the battlefield. The EBA also leads the planner to a detailed list of specified and implied tasks and a solid estimate of what the mobility/survivability operating system can provide to the task force. The planner should articulate this information in exact capabilities based on the task force's current state. The EBA must address engineer assets as well as the mobility/survivability operating system as a whole, although we rarely observe this critical aspect being conducted. The EBA must be conducted early in the MDMP, be updated continuously, and be in sufficient detail to provide the commander with a clear understanding of the *state* of mobility/survivability systems—not their *status*.

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important to these junior leaders, who must be proficient in this critical Army task as platoon leaders.

Selecting a Branch and Post

One of the most rewarding experiences for an instructor at the USMA is participating in the cadet branch and post selection process. An Engineer Branch representative (a major or lieutenant colonel) is assigned to the academy in the Department of Military Instruction. This engineer officer coordinates the branch and post selection process for all seniors who select the Corps of Engineers as their branch. The Engineer Branch representative typically solicits assistance from all engineer officers at West Point. As representatives of the Corps of Engineers, USMA engineer instructors provide valuable information to the Army's future engineer lieutenants. Branch selection is one of the most important decisions that cadets will make in their military careers, and most of them are eager to learn about officers' experiences in engineer units. After cadets select the Engineer Branch, they choose the location of their first three-year assignment. Once again, the experiences of an engineer officer will be valuable to the cadets as they select a post. The bottom line is that as engineer officers, we have a vested interest in finding the very best second lieutenants to join our ranks. As part of the D/GEnE, engineer officers have a direct impact on future engineer platoon leaders who may someday serve in their battalion.

The Right Choice for You!

An assignment in the D/GEnE at West Point will be one of the most challenging and rewarding experiences of your Army career. As a member of the faculty, your responsibilities and opportunities to excel go far beyond teaching cadets. Not only will you become a better officer intellectually, you will continue to hone your military skills. Most importantly, you will help shape the lives of the young men and women who join the Corps of Engineers and lead our Army into the 21st century.

For more information about joining the faculty in the D/GEnE at West Point, call the personnel officer at commercial (914) 938-3321 or DSN 688-3321.

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State vs. Status

The term "state" refers to the *capability* of mobility/survivability assets in terms of what we can provide to support the task force's mission. Instead of simply regurgitating the assets available, the planner should brief the commander on precise engineer capabilities. For example, state the number of breach lanes, number of protective positions, linear meters of obstacle effort, etc., that engineers can provide and as required estimates of what the task force as a whole could provide if necessary. *Status* is simply how many widgets we have. The maneuver commander does not care how many widgets we have; he wants to know if engineers can support the mission and, if not, what additional tasks must be completed or what additional assets must be acquired. Ask yourself "Why am I telling the commander this?" The engineer planner must ask himself "So what? What does my analysis, this processed information that I am about to share with my commander or fellow members of his staff, mean to the task force as a whole?" He must provide that information in terms that are useful to the commander. Don't say "Sir, I have four of six dozers operational. I will be followed by the Air Defense Officer." Instead, say "Sir, I have four of six dozers operational, and with those assets I cannot achieve your required level of survivability for the task force by the No Later Than Defend Time. My recommendation to overcome this shortcoming is to..."

Conclusion

The EBA is the foundation of all engineer planning and the basis of engineer integration in the combined-arms team. However, engineer planners routinely exclude the preparation of an EBA when they conduct a mission analysis. A detailed EBA must be prepared to provide the information required for units to be successful during mission analysis and subsequent planning activities for the task force.

Future articles by the JRTC observer/controller team will address specific tactics, techniques, and procedures for the EBA and planning tools we have seen units use successfully at the training center.

Major Baker served as the Senior Engineer Company Observer/Controller at the Joint Readiness Training Center, Fort Polk, Louisiana, when this article was written. He currently is the CTC Branch Chief, Center for Army Lessons Learned, at Fort Leavenworth, Kansas. Previous assignments include brigade engineer, assistant battalion S3, and commander, B Company, 326th Engineer Battalion, 101st Airborne Division (AASLT); assistant brigade S3, 2nd Infantry Division, Camp Howze, Korea; and platoon leader and company executive officer, 37th Engineer Battalion, (CBT)(ABN), Fort Bragg, North Carolina.