

# Doctrine Updates: A Bridge to the Future Force

By Lieutenant Colonel Reinhard W. Koenig

The recently approved capstone engineer manual—Field Manual (FM) 3-34, *Engineer Operations*—is now accessible on the General Dennis J. Reimer Training and Doctrine Digital Library. Several years in production, this manual provides a holistic construct for engineer operations within the current operational environment. It consolidates FM 5-100, *Engineer Operations*, and FM 5-114, *Engineer Operations Short of War*; and more importantly, links Joint Publication (JP) 3-34, *Engineer Doctrine for Joint Operations*; JP 3-15, *Joint Doctrine for Barriers, Obstacles, and Mine Warfare*; JP 4-04, *Joint Doctrine for Civil Engineering Support*; and FM 3-0, *Operations*, to our manuals. As the Engineer Regiment moves forward from FM 3-34 with implementing manuals, we must build into our doctrine a bridge to the Future Force that will rapidly incorporate future concepts and support the Current Force.

## FM 3-34 Changes

Our capstone manual takes into account new concepts, technologies, and requirements and recognizes that the threat is continuously evolving. Written primarily at the operational level of war, it is applicable to commanders—both engineer and maneuver—at all echelons. It also recognizes that we operate in an environment of continuing transformation. Although it is a complete rewrite of engineer capstone doctrine, some key changes are to—

- Establish an engineer mission-essential task list (METL).
- Codify assured mobility.
- Include field force engineering (FFE).
- Recognize maneuver support (MANSPT) as a grouping of combat support functions.

### Establish an Engineer METL

The Combined Arms Center published FM 3-0, *Operations*, in June 2001. As part of this effort, it established an Army METL to serve as an operational expression of the Army's core competencies. It also directed Army units to develop their battle-focused METLs in concert with FM 7-15, *The Army Universal Task List*. The table at right shows the Engineer Regiment's METL, which directly supports the Army METL.

### Codify Assured Mobility

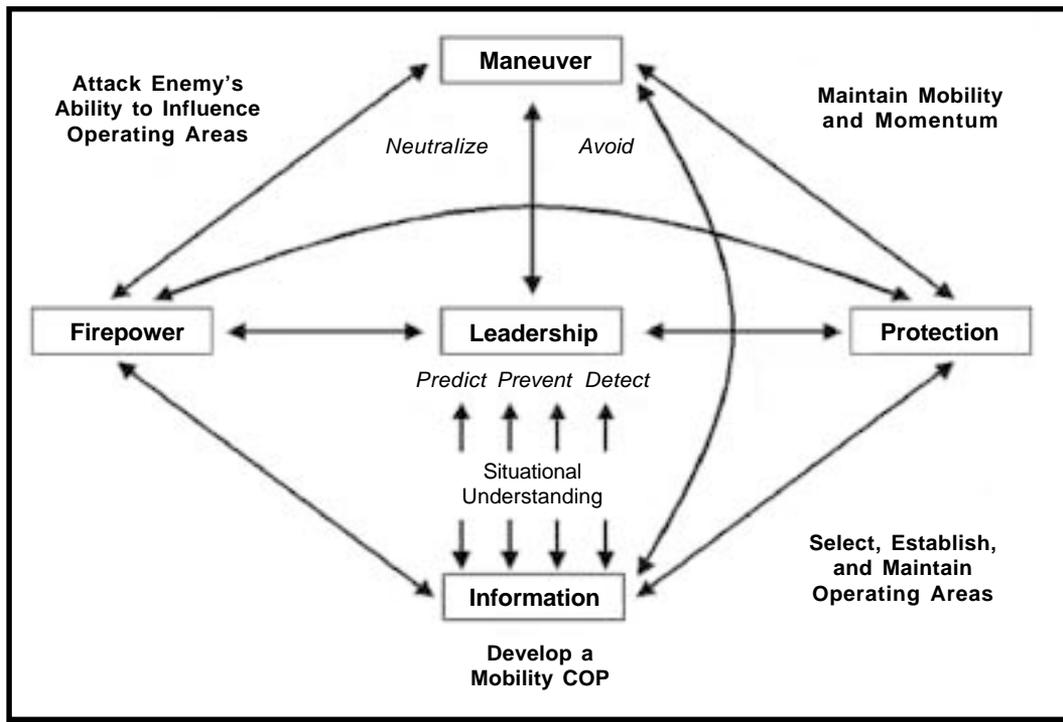
We codified our role (with other branches) to provide assured mobility to the force and

recognized the invaluable role of the U.S. Army Corps of Engineers (USACE) to our nation. For the first time, we link the operational framework of FM 3-0 and the engineer battlespace functions that support the maneuver commander (combat, geospatial, and general engineering) into a construct that allows the force to deploy, move, and maneuver where and when it desires to accomplish the mission. Not to be confused with the Battlefield Operating System (BOS) function of mobility, assured mobility supports the maneuver commander's use of all elements of combat power to achieve decisive, shaping, and sustaining operations across the full spectrum of conflict. The four imperatives of assured mobility are—

- Develop mobility input to the common operating picture (COP).
- Select, establish, and maintain operating areas.
- Attack the enemy's ability to influence operating areas.
- Maintain mobility and momentum.

These imperatives are integrated into the military decision-making process to achieve the commander's intent. Achieving assured mobility rests on applying its six fundamentals: predict, detect, prevent, avoid, neutralize, and protect. They are all applicable from the strategic to the tactical level. They are most clearly defined in Chapter 3 of FM 3-34, and suggested resources to achieve each are shown in Figure 1 (which is Figure 3-3 of FM 3-34). Note that several units used the assured mobility construct with great success in planning and executing Operation Iraqi Freedom.

Army and Engineer Regimental METL	
Army Tasks	Engineer Regimental Tasks
Shape the Security Environment	Shape the Security Environment
Respond Promptly to Crisis	Respond Promptly to Crisis
Mobilize the Army	Mobilize Engineer Forces
Conduct Forcible Entry Operations	Support Forcible Entry Operations
Dominate Land Operations	Support Assured Mobility to Dominate Land Operations
Provide Support to Civil Authorities	Provide Support to Civil Authorities
	Provide Quality, Responsive Engineering Services to the Nation



**Figure 1. Imperatives of Assured Mobility and the Elements of Combat Power (Figure 3-3 from FM 3-34)**

### Include FFE

For the first time, engineer doctrine recognizes the role of the entire Engineer Regiment in the defense of our nation by establishing FFE as a means to access its specialized engineer capabilities. Particularly early in any contingency, FFE helps to meet the challenge of filling the gap between engineer requirements and assets on the ground. This is done through the combination of *reach* and *forward presence*. *Reach* is the ability of forward-deployed engineer elements to communicate with nondeployed subject matter experts—particularly from the seven research and development centers within USACE—to develop and implement solutions to engineer issues from tactical through strategic levels. The communication system of choice for reach is the USACE-developed TeleEngineering Toolkit. The system proved invaluable at every level during Operation Iraqi Freedom. USACE also operates the Tele-Engineering Emergency Operations Center to facilitate reach. *Forward presence* is the deployment and application of modular teams to support the joint force and Army service component commander's needs across the entire battlespace. Drawn mainly from the Engineer Commands (ENCOMs) and USACE, these teams are tailored to meet mission requirements:

- Forward Engineer Support Team – Main (FEST-M)
- Forward Engineer Support Team – Augmentation (FEST-A)
- Contingency Real Estate Support Team (CREST)
- Environmental Support Team (ENVST)
- Base Development Team (BDT)

- Infrastructure Assessment Team (IAT)
- Facility Engineer Group (FEG)
- Facility Engineer Detachment (FED)
- Facility Engineer Team (FET)

Appendix C of FM 3-34 describes the capabilities of each modular team and provides operational guidance for planning their employment.

### Recognize MANSPT

MANSPT is the staff integration of the mobility, counter-mobility, and survivability BOS with the remaining BOS elements focused on enabling assured mobility for the friendly force. It focuses on enhancing tactical freedom of maneuver and force protection using the assured mobility imperatives and fundamentals as the framework. The Stryker Brigade Combat Team (SBCT) currently uses a MANSPT cell that integrates the functions of the Engineer, Chemical, and Military Police Branches, along with explosive ordnance disposal units. FM 3-34 lays out the concept for MANSPT, recognizing it as a future concept that is much broader than the SBCT and encompasses the means to enable, enhance, and protect freedom of action.

These are but a few of the major changes in the Regiment's capstone doctrine. Clearly the culmination of this effort has brought engineer doctrine in line with joint and Army doctrinal thinking and has provided the foundation and blueprint for the Regiment's future doctrinal efforts.



## Near-Term Doctrinal Changes

The Engineer Regiment maintains a doctrinal library of 64 products, the second highest number of any branch. Keeping this diverse and often-technical library current requires effort from across the Regiment. Currently, 42 of these products need to be revised. (See U.S. Army Training and Doctrine Command [TRADOC] Regulation 25-36, *The TRADOC Doctrinal Literature Program*, for more on determining the status of a doctrinal product.) Included in this effort is support to Joint Forces Command and TRADOC for the upcoming consolidation of JP 3-34, *Engineer Doctrine for Joint Operations*, and JP 4-04, *Joint Doctrine for Civil Engineering Support*. The good news is that with the publication of FM 3-34, we can begin work on the key implementing manuals:

- FM 3-34.210, *Mine/Countermine Operations* (currently FM 20-32, *Mine/Countermine Operations*). Changes in the contemporary operating environment, equipment technologies, and doctrine make a complete revision necessary. We will use lessons learned from ongoing operations—and include improvements to sapper training involving explosive ordnance—to make this document relevant in the field.
- FM 3-34.250, *General Engineering* (currently FM 5-104, *General Engineering*). Last published in 1986, this FM needs to reflect the advent of FFE, updates to the engineer planning process and joint and Army doctrine, and lessons learned from Operation Enduring Freedom and Operation Iraqi Freedom.
- FM 3-34.11, *Countermobility* (currently FM 90-7, *Combined Arms Obstacle Integration*, and FM 5-102, *Countermobility*). The consolidation and update of the old countermobility manual into FM 3-34.11 is almost complete. A final draft version is available on Army Knowledge Online (AKO), and comments are welcome.
- FM 3-34.230, *Geospatial Operations* (currently FM 3-34.230, *Topographic Operations*). The revision of this FM will reflect changes in organization, equipment, and lessons learned from an extremely successful topographic effort during Operation Iraqi Freedom.
- FM 3-34.112, *Survivability* (now FM 5-103, *Survivability*). This FM update will reflect almost two decades of advancement in technology and improvements to tactics, techniques, and procedures.

Publication of these manuals is critical to the Regiment, because they serve as the key implementing manuals to execute our battlespace functions of combat, general, and geospatial engineering. They also provide the doctrinal base for our operational and technical doctrinal products. Numerous other efforts are occurring throughout the Regiment. The U.S. Army Engineer School is partnering with many organizations that are stakeholders to produce doctrine that is timely and relevant. Examples include—

- FM 3-34.251 (FM 5-116), *Engineer Operations, Echelons Above Corps*.
- FM 3-34.465 (TM 5-332), *Blasting Operations in Pits and Quarries*.
- FM 3-34.483 (FM 5-422), *Prime Power Operations*.
- FM 3-34.486 (TM 5-349), *Arctic Construction*.
- FM 3-34.280 (FM 5-490), *Engineer Diving Operations*.

If you would like to become involved with assessing, reviewing, or writing any engineer publication, please contact the Engineer School Doctrine Development Division at <[doctrine.engineer@wood.army.mil](mailto:doctrine.engineer@wood.army.mil)>.

## Future Doctrinal Changes

Look for doctrine management to transform in the future. Current initiatives at TRADOC include object-based publishing and doctrine taxonomy initiatives that will revolutionize the way we write, produce, and access Army doctrine. More importantly, we must begin thinking now about how and when to codify Future Force concepts into our doctrine. With an initial operating capability of 2008, we must begin developing engineer doctrine for the Future Combat System in 2006 in order to provide the doctrinal bridge between the Current and Future Forces. In the meantime, our current doctrinal efforts must recognize transformation and integrate emerging concepts and technologies as they are developed. Only then will we be able to meet the doctrinal needs of the Future Force.



Lieutenant Colonel Koenig is the Chief of the Doctrine Development Division at the U.S. Army Engineer School, Fort Leonard Wood, Missouri.

## Moving?

Did your unit move recently, or is your *Engineer Bulletin* addressed incorrectly? To correct your mailing address, send us the following information:

Old Address:

---

---

---

New Address:

---

---

---

E-mail: <[pbd@wood.army.mil](mailto:pbd@wood.army.mil)>

Telephone: (573) 563-4104, DSN 676-4104

Address: U.S. Army Maneuver Support Center,  
ATTN: ATZT-DT-DS-B (Engineer), 320 MANSCEN  
Loop, Suite 210, Fort Leonard Wood, Missouri  
65473-8929