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JOINT ENGINEERING STRATEGY

By Major John P. Lloyd

The president's 2006 National Security Strategy (NSS) stressed a policy to seek and support democratic movements and institutions in every nation and culture. The NSS is founded on two pillars:

- To promote freedom, justice, and human dignity; work to end tyranny and encourage effective democracies; and extend prosperity through fair trade and wise development policies.
- To confront today's challenges by leading a growing community of democracies.¹

An important element in fulfilling and shaping the pillars of the NSS in the international environment is the operational effectiveness of joint military engineers in conducting combat operations and humanitarian assistance. Trends from the conflicts in Iraq and Afghanistan and from the past decade show that the United States—together with its international partners—must have the capacity to manage two or three reconstruction and stabilization operations concurrently.²

Joint military engineers have a long history of heavy engagement in activities such as United States Southern Command's Operation Fuertes Caminos, a wide range of assistance to Panama, and the responses to the 2004 Indian Ocean tsunami and 2005 Pakistan earthquake. Engineers provide civic assistance, support, stability and reconstruction operations, development projects for critical infrastructure, and the further development of the natural resources of other countries. Engineers from all the military Services provide unique capabilities in all these endeavors and are well-suited to organize and execute these missions to fulfill the NSS.

To accomplish this, joint military engineers must develop a supporting strategy to become increasingly flexible, thus providing the full spectrum of military engineering required by leaders from the president down to the joint task force commander. Joint military engineering is unique in that it can operate and support strategic, operational, and tactical objectives. Unlike any other group, joint military engineers typically support and enable both operational and sustainment

functions, as well as all the instruments of national power. To be more effective, the number of military engineers should be increased, and a reorganization of engineer commands should be considered.

Successful strategic military joint engineering can be seen in Iraq today with the United States Army Corps of Engineers (USACE) Gulf Region Division (GRD). The mission of the GRD and its partners in the Naval Facilities Engineering Command (NAVFAC) and Air Force Civil Engineer Support Agency (AFCEA) is to provide high-quality, responsive, full-spectrum engineering services in Iraq in support of military and civil construction, logistical services, and aggressive assistance to the Iraqi government so it can assume full responsibility for national reconstruction.³

Joint Engineers as Shapers

Using the joint military engineer force to shape the international community can be extremely effective in fighting poverty, increasing economic growth, and promoting democracy by helping governments make better use of their own countries' resources. Engineers shape the security environment by supporting the combatant commander's vision. They engage other nations by working with allies, as well as potential coalition partners, by participating in international exercises and supporting stability operations in foreign countries. Engineers can often lead combatant commander engagement initiatives through ministry-level contact, military-to-military contact, instruction, and construction projects.⁴ For example, USACE was designated by the Department of Defense (DOD) to be the executive agent in extinguishing the oil fires in Iraq during the 2003 invasion. USACE was able to extinguish a number of oil fires during initial operations and has since awarded contracts to sustain Iraq's oil infrastructure, which is the country's main economic resource.⁵ The National Response Plan also identifies USACE as the primary agency for providing Emergency Support Function #3-2 (technical assistance, engineering, and construction management resources and support during response activities).⁶

Historic Joint Military Engineering

Joint military engineering has been involved in every major conflict from World War II to present-day operations in Iraq and Afghanistan. It also assisted with Hurricane Katrina recovery efforts and is involved in Homeland Security.

World War II

During the 6 June 1944 Normandy invasion, the United States Navy Seabees were among the first to go ashore as members of naval combat demolition units. Working with United States Army engineers, their primary task was to destroy the steel and concrete barriers that the Germans had built in the water and on the beaches to forestall Allied amphibious landings.⁷

Vietnam

Based on a 1965 memo from Robert S. McNamara, Secretary of Defense, to Harold Brown, Secretary of the United States Air Force, a study was conducted that led to the development of the United States Air Force Prime Base Engineer Emergency Force (Prime BEEF) units.⁸ These units worked alongside United States Army and Navy engineers to build or improve airfields that supported strategic bombings in North Vietnam. Projects included improved beddown and maintenance facilities for crews and aircraft.

Haiti

In September 1994, the 20th Engineer Brigade from Fort Bragg, North Carolina, deployed to Haiti as Task Force Castle, a joint military engineer task force. The brigade conducted a number of decisive engineer operations that included the construction of base camps, restoration of electrical power directly benefiting the local populace, construction of a landfill on Soleil, refurbishment of an academy for the International Criminal Investigators Training Assistance, construction of a marketplace that supported hundreds of vendors, improvements to local schools, and removal of garbage as part of the national cleaning fervor in Haiti.⁹

Bosnia

Military engineers played a major role in Bosnia with the initial bridge construction across the Sava River, which allowed 1st Armored Division forces to enter the country. The 1st Armored Division Engineer Brigade formed a joint military engineer task force that built more than 24 base camps to support the 28,000 North Atlantic Treaty Organization (NATO) peacekeeping forces monitoring the Dayton Accords. Engineers supported the NATO mission by improving roads and removing explosive hazards such as mines and unexploded ordnance.

Tactical and Technical Implementation

The national strategic engineering assets of USACE, NAVFAC, and the Air Force Center for Engineering and the Environment (AFCEE) will be vital in

implementing the NSS. The increased capability of the Office of the Secretary of State/Office of the Coordinator for Reconstruction and Stabilization (S/CRS) will allow for an integrated civilian and military response that is agile, flexible, scalable, and able to build on lessons learned. According to Joint Publication 3-34, *Joint Engineer Operations*, USACE and NAVFAC are the principal engineer organizations to plan, design, construct, and acquire facilities and real estate for DOD.¹⁰ Joint military engineering will play a vital role in supporting the Department of Homeland Security and its three national priorities of preventing terrorist attacks within the United States, reducing America's vulnerability to terrorism, and minimizing the damage and facilitating the recovery from attacks that might occur.¹¹

Joint military engineers support this strategy by working with organizations such as United States Northern Command's Joint Task Force North to prevent transnational threats to the homeland. This includes using engineer units for construction along the Mexico-U.S. border to increase law enforcement's ability to fight illegal drugs. It also assists law enforcement agencies with combating illegal immigration, as outlined in Chapter Eight of the 2006 NSS. Joint Task Force North's engineering and surveillance projects have contributed to hardening the border, and halting "alien smuggling organizations" is among its stated goals. It provides a model for the kinds of projects the National Guard will be expected to undertake as the Bush administration implements its controversial plan to strengthen the southern frontier. One such project can be found in the hills east of San Diego, California, where active duty United States Marine Corps engineers teamed with a Maryland Army National Guard unit to build an access road.¹²

The border security and illegal immigration issue remains a top strategic issue for the United States and Mexico. The National Guard is playing a huge role in border security. The United States depends on the National Guard—especially its engineer forces—as part of the Total Force concept. More than 60 percent of the military's engineer force resides in the National Guard and Reserves, and they will continue to be a strategic asset in improving the nation's borders. National Guard officials in San Diego say that much is being accomplished, and they point to engineers who are working on projects such as a secondary border fence. In the next year, they are scheduled to build drainage structures and a stretch of all-weather road in the western part of the San Diego border area; gates and fencing in the eastern portion; and fencing at Campo, about 60 miles east of San Diego.¹³

Conclusion

Joint military engineers bring unique capabilities that support reconstruction efforts and nation-building along with all other elements of national power. Military engineers are experienced at interagency support and in leveraging nonmilitary and nongovernmental engineer assets to support mission accomplishment.¹⁴ While transformation

has reduced much of the military engineer forces, a strategy must be developed to ensure that military engineer capabilities are maintained and that joint force commanders understand the employment of those capabilities. Joint military engineers must develop a strategy that supports the way ahead as outlined by the administration's strategy in Chapter 4 of the NSS. This strategy includes three levels of engagement:

- Conflict prevention and resolution.
- Conflict intervention.
- Post-conflict stabilization and reconstruction.

Chapter 9 focuses on the same strategy in the way ahead in improving the capability to plan and respond to post-conflict situations.¹⁵ The S/CRS is responsible for integrating U.S. government resources and assets, including military engineers. Military engineers must continue to work closely with the Department of State to achieve national objectives. The S/CRS identifies two goals for engineers:

- Be responsive to immediate needs, which is the assessment of existing facilities for post-conflict needs.
- Establish the foundation for development, which includes the construction of facilities to promote governance, commerce, and social well-being.¹⁶

As the S/CRS continues to grow, its capability will bring added value in developing policy and strategy for reconstruction efforts. The S/CRS currently has one USACE liaison assigned to its staff and will need to expand the numbers of its military members to ensure that capabilities and resources are managed across the full spectrum of contingencies from civil war to natural disaster. An S/CRS representative would be a vital member in the joint military engineer headquarters as an interface with in-country teams who understand host nation reconstruction capabilities.

Just as DOD is increasing the number of Special Forces operators and units, it should study the joint military engineer force and increase the number of units and engineers in all the military services. Like the Special Forces, military engineers provide support across all six phases of an operation and provide tactical, operational, and strategic engineering to the president, combatant commanders, and joint task force commanders. The Quadrennial Defense Review and follow-on Strategic Planning Guidance emphasized the need to continue to build on DOD's capability-based planning and management. The Joint Operational Engineer Board may need to develop a joint military engineer strategy as it builds the Capability Portfolio Management for Operational Engineering. To maximize effectiveness, DOD may need to develop an "Engineer Command" that is similar to the proposed "Medical Command" that would combine the medical capabilities of all the Services into one command.¹⁷ Doing so would ensure that military engineers would be able to significantly contribute to the achievement of national goals by overseeing and coordinating the effects of engineer forces from all Services. 

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Endnotes

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- ⁴ FM 3-34, *Engineer Operations*, 2 January 2004, pp. 1-16.
- ⁵ DOD Release No. 146-03, "Army Named Executive Agent for Combating Iraq Oil Fires," <<http://www.defenselink.mil/releases/release.aspx?releaseid=3679>>, 24 March 2003.
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- ⁹ Captain Darren Klemens and Captain Kelly Slaven, "Task Force Castle: Joint Engineer Operations in Haiti," *Engineer*, Vol. 24, No. 1-2, April 1995, pp. 36-43.
- ¹⁰ Joint Publication, (JP) 3-34, *Engineer Doctrine for Joint Operations*, Government Printing Office, 5 July 2000.
- ¹¹ NSS, 2006. p. 43.
- ¹² Stew Magnuson, "Troops Use Frontier for Real-World Training," *National Defense Online*, July 2006, <<http://www.nationaldefensemagazine.org/issues/2006/july/TroopsUseFrontier.htm>>.
- ¹³ *San Francisco Chronicle*, "National Guard Works the Border," <<https://webnet.jfsc.ndu.edu/http/0/ebird.afis.mil/ebfiles/e20061024aaindex.html>>.
- ¹⁴ FM 3-34, pg. 1-2.
- ¹⁵ NSS, 2006. pp. 15-16, 44-45.
- ¹⁶ Department of State Office of Reconstruction and Stabilization website at <<http://www.state.gov/s/crs/>>.
- ¹⁷ *Navy Times*, "Medical Merger," 25 September 2006, pp. 14-15, 31.