

THE U.S. ARMY CORPS OF ENGINEERS SUPPORT OF COMBATANT COMMANDS

BY

MR. MICHAEL A. ALEXANDER
Department of Army Civilian

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U.S. Army War College, Carlisle Barracks, PA 17013-5050

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USAWC STRATEGY RESEARCH PROJECT

THE U.S. ARMY CORPS OF ENGINEERS SUPPORT OF COMBATANT COMMANDS

by

Mr. Michael A. Alexander
Department of the Army Civilian

Colonel Robert K. Nye
Project Adviser

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U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

ABSTRACT

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In January 2005, the Chief of Staff of the Army established *Task Force Stability Operations* to assess Army-wide capability gaps in planning for and conducting stability operations, now known as Stability, Security, Transition, & Reconstruction Operations (SSTR). Also in 2005, the Department of Defense published DOD Directive 3000.5 which requires that the Army develop specific programs, engineering capabilities, and personnel to ensure success in future SSTR environments worldwide. The US Army Corps of Engineers (USACE), through the development of its Field Force Engineering (FFE) program in late 2003 has been providing technical engineering support to the Combatant Commands (COCOMs) during military contingencies and catastrophic natural disasters. This paper assesses the current USACE FFE program, its support of the COCOMs, Army Service Component Commands (ASCCs), and U.S. Joint Task Forces (JTFs) during contingencies and natural disasters, and its proposed expansion to facilitate successful future SSTR operations. Recommendations are provided to enhance the USACE's overall SSTR engineering effectiveness allowing improvements

that will allow USACE to improve its support to the COCOMs and enhance their regional Theater Security Cooperation Plans.

THE U.S. ARMY CORPS OF ENGINEERS SUPPORT OF COMBATANT COMMANDS

This is the first conflict where field force engineering concepts led to a total engineer regimental effort. The US Army Corps of Engineers (USACE) and forward engineer support teams in Iraq brought expertise to the strategic, operational, and tactical level engineer effort. They evaluated and assessed the Iraqi infrastructure systems of power, water, and oil and helped solve field-engineering problems associated with bridging, power generation, and field sanitation. USACE provided a Tele-Engineering Kit that was a valuable link back to centers of expertise. In one instance, this link enabled communication with the very best experts on bridge design.

—Operation IRAQI FREEDOM,
Engineer Lessons Learned,
U.S. Army Engineer School¹

The Engineer Challenge: Meet the Curve.

Army engineering has been not just a force multiplier, but a force enabler in every major military operation since the end of the Cold War. The scope, limitations and nature of operations in today's and tomorrow's environment require more agility, flexibility, and better use of resources than current doctrine envisions. The doctrine for employment of Army engineer capabilities is still mired in World War II concepts – force build-up, combat engineering for early entry operations, and ad hoc planning and control of engineering services by Table of Equipment and Organization (TOE) engineer units. Contract construction, real estate acquisition, environmental engineering, and application of modern engineering technology to operational requirements have been given scarce attention in training and doctrine. The world and U.S. commercial construction industry have changed dramatically since World War II. In World War II, the capabilities of engineer units were on par with those of the U.S. engineer and commercial construction industry, characterized by labor intensive design and construction practices and limited foreign activities. Today, the commercial construction

industry is global in scope, adapts to operations in austere and, sometimes, hostile environments, is much more capable, supporting U.S. military operations in every major U.S. conflict since the Korean War.

Today the Army's engineers have been in the forefront of U.S. Military Strategy and National Security Strategy especially during all Phases of military contingencies but most notably during Phase IV Reconstruction and Stability Operations. The Army's active and reserve component engineer units are engaged worldwide in projects that meet military needs, provide infrastructure to developing countries, and demonstrate to developing countries the military's role in a democracy. The U.S. Army Corps of Engineers (USACE) has also been a major player in National Security Strategy with its nation building projects and provision of engineering technology. During military operations, USACE has executed most of the military construction and real estate operations since the end of the Cold War. Yet, today's Army engineer services concepts are tangential in doctrine, absent in training, piecemeal in planning, and ad hoc in execution.

The Army needs a comprehensive doctrine that integrates and synchronizes all operational engineer capabilities in Joint and Combined land warfare operations. This engineer doctrine must be predicated on faster deployment and employment within an increased operational tempo requiring commanders and their battle staffs to be organized and trained to leverage new capabilities and technologies. The Army's TOE engineer units provide basic construction capabilities in austere, hostile environments and can quickly shift priorities and resources to meet military needs. USACE brings its unique capabilities for complex military construction, advanced technology development

and application, management of large-scale infrastructure development, and environmental balance. USACE is engaged in worldwide engineering under The Army's missions (including execution of The Army's Civil Works mission) and authorities that are unique to USACE for engagement overseas (to include non-DOD related work for others). The Army's challenge is how to best integrate its operational engineers into the national security and national military strategies as a cohesive capability for Army operations. The Army's engineers must be prepared to support contingency operations and all missions within the full spectrum of a conflict. Figure 1, graphically demonstrates the changing requirements for engineers over time in any given contingency operation.² The initial engineering requirements are greatest at the beginning of any contingency and are much more than the deployed Army Engineer TOE units can support. Deployed USACE elements provide added value and increase the overall engineer capabilities to help fill the capacity gap (the unfilled area under the curve) and help meet the requirements curve earlier in a contingency.

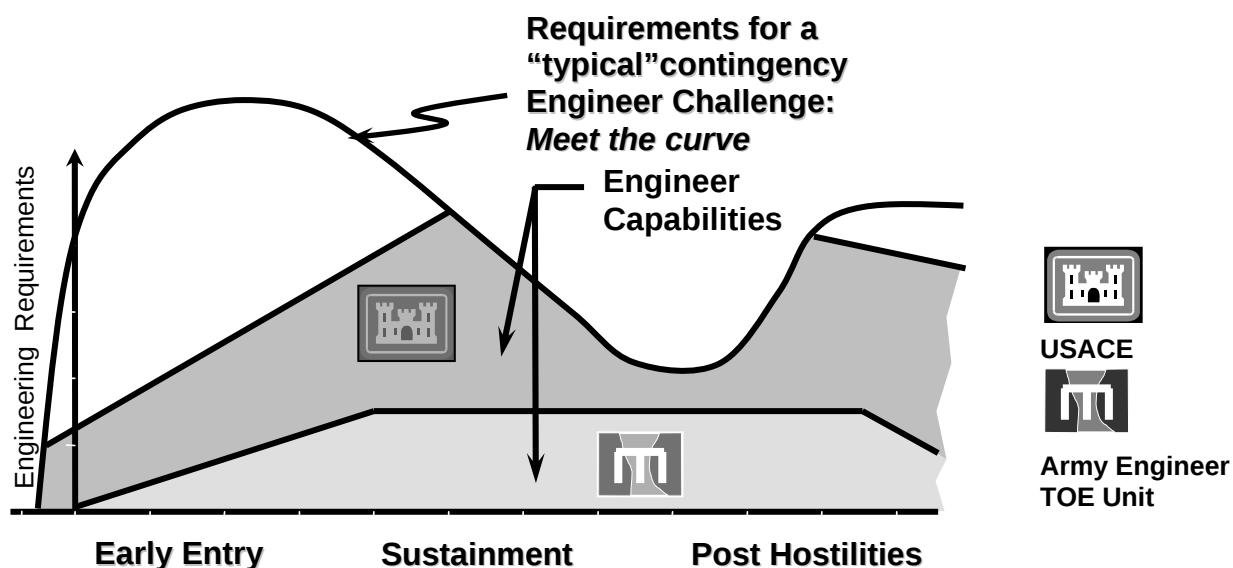


Figure 1. USACE as force multiplier and early added value³

Policy Developments within DoD and the Department of the Army

In January 2005, the Chief of Staff of the Army established *Task Force Stability Operations* to assess Army-wide capability gaps in planning for and conducting stability and operations. From that assessment, 25 separate initiatives were developed and the Director, Army Staff (DAS) assigned primary and supporting responsibilities for each initiative. The Stability Operations Task Force assigned Initiative 24 to the U.S. Army Corps of Engineers, Director of Military of Programs as “*the lead in efforts, to institutionalize and improve the responsiveness and readiness of civilian capabilities to mobilize in support of the ASCCs*”.⁴ In November 2005, DOD Directive 3005.5, Military Support for Stability, Security, Transition, and Reconstruction (SSTR) Operations mandated the adoption of SSTR as a core competency commensurate with combat operations.⁵ As a result of this tasking, the Headquarters of the U.S. Army Corps of Engineers proposed that its current Field Force Engineering (FFE) Program, approved by DAMO-FM in May 2003⁶, expand to meet this requirement. The original FFE program pre-dated this SSTR Directive and the Stability Operations Task Force. All of the deployable FFE teams were organized on as needed or ad hoc basis and formed with volunteers from existing USACE TDAs.⁷

Current USACE Support of DOD

Military engineering support at the Theater level runs the gamut from planning and managing combat engineering activities to conducting major reconstruction of host nation infrastructure. The technical engineering skills required to complete the complex and specialized engineering missions faced at the theater level are often found in greater depth within the Army’s civilian employees than they are in our soldier ranks.

Allowing the maneuver commander and his engineering staff to leverage the vast capabilities and knowledge base of over 34,000 USACE civilian employees is the impetus behind FFE.

The Chief of Engineers has aligned USACE divisions with combatant commanders to reinforce and extend the capabilities of the Army Engineer Regiment, providing expertise from the thirty-four thousand USACE civilian employees and the approximate fifty thousand AC/RC military engineers. This relationship with the combatant commander allows direct access to USACE resources to support theater engagement strategies, contingency planning, and wartime operations. The USACE mission covers full spectrum (peace to wartime) operations with five major functional areas: (1) War fighting operations providing technical engineering and contingency planning support. (2) Disaster relief operations responding to local, national and global disasters. (3) National infrastructure improvements building and sustaining the critical facilities for military installations and public inland navigation waterways. (4) Environmental operations for restoring, managing, and enhancing local and regional ecosystems. (5) Water resource development for creating synergy between water resources development and the environment. The USACE Field Force Engineering (FFE) program has the specific mission to support the first two major functional areas.⁸

USACE Field Force Engineering (FFE) teams serve as USACE's forward planning, execution or liaison teams in support of contingency operations and response to domestic and international catastrophic natural disasters. They contain an array of personnel with specialized engineer skills necessary to develop suitable engineering solutions to problems identified by maneuver units and their engineer staffs. FFE teams

can develop a solution on their own and in theater when possible, but often utilize their unique telecommunications capabilities to reach-back to USACE laboratories or centers of expertise for solutions to complex engineering issues.

USACE Field Force Engineering teams synchronize well with Army transformation to the Future Force. FFE Teams are very flexible and can be tailored for a specific mission (e.g. more structural or geotechnical engineers instead of civil engineers for a catastrophic earthquake) and capable of plugging into the Army's modular force as needed. The restructuring of the Engineer Regiment created numerous "plug and play modules" to accomplish specific engineer missions such as topographic/ geospatial analysis, explosive hazard neutralization, construction management. USACE FFE teams will blend well with the other modules in the Future Engineer Force as defined by the U.S. Army Engineer School.⁹

As the nation's pre-eminent agency for managing water resources, environmental restoration and construction management, USACE has a history of working with other governmental agencies outside of DoD. This solid reputation in dealing with U.S. Department of State, the Agency for International Development, the Department of Homeland Security, the Federal Emergency Management Agency, the Environmental Protection Agency and other organizations is vital in addressing the theater engineer requirements during contingency operations and catastrophic natural disasters.

USACE is actively working with the COCOMs and the ASCCs to integrate better into Operational Plans (OPLANs), Contingency Plans (CONPLANs) and active ongoing operations. USACE has a mixture of civilians and mobilized reservist serving as Liaison Officers (LNOs) to these Headquarters to help ensure it provides the best support in

planning and advising on USACE capabilities. USACE established a Tele-Engineering Operations Center (TEOC) under the Engineer Research and Development Center (ERDC) and a central Engineer Infrastructure and Intelligence Reach-back management Center (EI2RC). The ERDC-TEOC provides a reach-back engineering capability through its deployable Tele-engineering Communications Equipments (TCE-D) allowing DOD personnel deployed worldwide to talk directly with experts in the U.S. when a problem in the field needs quick resolution. Deployed troops can be linked to Subject Matter Experts (SMEs) within the USACE (or comparable Air Force and Navy organizations), private industry, and academia to obtain detailed analysis of complex problems that would be difficult to achieve with the limited expertise or computational capabilities available in the field. Both of these centers provide all of the engineering services and technical reach-back support for homeland defense issues, contingency planning and for current and future operations.¹⁰

Doctrinal Elements of the USACE FFE Program

Beginning in late 2003, USACE developed, organized, and trained deployable and non-deployable TDA teams enabling it to better support the military during peacetime, crisis action planning and contingencies. These TDA teams include the Forward Engineer Support Team – Advance (FEST-A); the Forward Engineer Support Team – Main (FEST-M); the Contingency Real-Estate Support Team (CREST); the Environmental Support Team (EnvST); and the Base-camp Development Team (BDT). These teams have been organized from USACE Division and District level personnel, who deploy voluntarily when required to support a crisis or military contingency.¹¹

The FEST-A is a small advance engineering team that deploys quickly and augments the engineer staff of other organizations from the combatant commander down to the Brigade Combat Team (BCT) level. Normally five to eight personnel, the FEST-A consists of a military team leader, Geographic Information System (GIS) specialist, and civil, mechanical, and electrical engineers. It can be augmented with structural, environmental and other engineering skills depending on the mission. The mission of the Forward Engineer Support Team – Advance (FEST-A) is to provide engineer planning and limited execution capability to a COCOM or ASCC engineer staff, a Joint Task Force (JTF), or a BCT. It conducts initial critical infrastructure assessments to include SWEAT (Sewer, Water, Environmental, Academics & Trash)¹² assessments, technical engineering and design assistance, limited contracting support, and real estate acquisition support to include reach-back capabilities to USACE.

The FEST-A's capabilities include: (1) Engineering planning and design utilizing the Theater Construction Management System (TCMS) to design at least one-500 person base-camp/day. (2) Real estate surveys, disposal and acquisition support, when augmented with CREST personnel. (3) limited contracting services and support. (4) Infrastructure assessments at a rate of 0.5 square kilometers of urban facilities/day. (5) Technical engineering and reach-back through tele-engineering (ten requests for information/day). This team is assigned to a Forward Engineer Support Team - Main (FEST-M) and is in direct support of an ASCC, Army Division/Corps, Engineer Command (ENCOM), Combat Support Brigade, Engineer Brigade and/or other U.S. Department or Agency as directed. Current doctrine indicates that a FEST-A should be allocated one per each committed Brigade Combat Team.¹³

The FEST-M is a deployable, USACE team though similar, is normally much larger than a FEST-A team and can be described as a mini-District (e.g., most USACE Districts have anywhere from 300 to 600 Army civilians) that executes the USACE contract construction mission in theater. A FEST-M can consist of 18 to 38 or more personnel depending on the mission. This team typically has personnel with design capabilities for all disciplines to include electrical, mechanical, civil, and environmental engineering. It also has contracting, resource management, and logistical personnel assigned to it. The commander of the FEST-M tailors the skill sets of the team to meet mission requirement. The mission of the Forward Engineer Engineer Support Team – Main (FEST-M) is to provide sustained U.S. Army Corps of Engineer (USACE) contract construction and engineering execution capabilities in an area of operations (AO) in support of a Joint Task Force(JTF), Theater Army Command, or other government agencies. Its capabilities include: (1) Providing infrastructure engineering planning and design utilizing Theatre Construction Management System (TCMS) to design four 500-person base-camps or equivalent facilities/day during a military contingency or catastrophic natural disaster. (2) Coordinating all USACE technical engineering reach-back through tele-engineering, SIPRNET, NIPRNET, etc. for USACE elements deployed within the area of operation, and can manage and coordinate up to 40 requests for information per day. (3) Managing and tracking employment of all deployable tele-engineering communications equipment (TCE-D) within the AOR. (4) Managing all contract construction for U.S. military forces deployed in the AOR during a military contingency when assigned as the Theater/Regional Contract Construction Agent. (5) Coordinating all requests for all Environmental Baseline Surveys (EBS), and

directing and managing the employment of all deployed USACE Environmental Support Teams (EnvSTs) within the AOR. (6) Geospatial engineering support to include the management and directing of all requests for USACE Geospatial engineering support from deployed military forces in the AOR during a military contingency or catastrophic natural disaster. (7) Command and Control of all deployed USACE Field Force Engineering (FFE) assets within an AOR during a military contingency or catastrophic natural disaster. (8) Real estate surveys, disposal and support, when augmented with CREST personnel. (9) Contracting services and support. (10) Technical engineering and reach-back through tele-engineering (40 requests for information per day). This team is assigned to an Engineer Command (ENCOM) or senior military command in the AO and will be allocated one per ENCOM or per senior area command, and one per ASCC as required.¹⁴

A Contingency Real Estate Support Team (CREST) and the Environmental Support Team (EnvST) normally augment a FEST-M, but can deploy separately. A CREST is a deployable 5 or 6-person team capable of quickly executing and acquiring real property (land and facilities) and leases at forward locations. The EnvST is a deployable 4 to 5 person environmental team that provides baseline, close-out and other environmental studies at forward locations. It is staffed with environmental specialists that can provide technical expertise to staff engineers and ultimately the commander of the combined arms force. These teams normally deploy together and complement each other during contingencies.¹⁵

A Base-camp Development team (BDT) is a non-deployable District based team that can quickly provide base development engineering, master planning and facilities

design for staging bases, base camps, forward operating bases, displaced persons camps, and any similar requirement. It uses the Theater Construction Management System (TCMS) software as its military contingency design tool and allows it to turn around designs in a twenty-four to thirty-six hour period.

USACE Support for Theater Level Planning, Crisis Action Support and Deployments

Deliberate Planning and Crisis Action Planning

The supporting USACE Division commander engages in deliberate planning with the supported COCOM and Army Service Component Command (ASCC) engineer staffs through the forward-deployed USACE LNO/Planners and in coordination with ENCOM planners. The USACE Division commander's staff develops USACE support plans in coordination with the HQUSACE G3 staff. When a COCOM, ASCC, Corps, JTF, or Army Division requires special technical engineer expertise, usually in the form of Request For Information (RFI), the COCOM/ASCC USACE Field Force Engineering Liaison Officer (LNO), USACE Division/District planner or the engineer staff officer can forward the requirement to either the USACE Engineer Research & Development Center (ERDC) Tele-Engineering Operations Center (TEOC), or to the USACE Engineer Infrastructure Intelligence Reach-back Center (EI2RC). According to HQUSACE, during FY08, the ERDC-TEOC will assume the Command and Control (C2) of the EI2RC and the management of all RFIs. The TEOC and the EI2RC are the focal point for RFIs and manage RFI flow to the Base-camp Development Teams (BDTs), the USACE Engineer Research & Development Center (ERDC) Laboratories or directly task one or more of the USACE Centers of Expertise (CXs).¹⁶

The USACE Division commander may augment the LNO/Planner during crisis action planning (CAP) with a FEST-A. The USACE division commander may be required to deploy several FEST-As. The FEST-As engage with the EI2RC on infrastructure assessments and capabilities as they affect contract construction and any technical engineering support above and beyond the normal capabilities of deployed Army/Joint engineer TOE units. The FEST-A at the ASCC level may also be engaged with the BDT(s) in planning for Army base camps and infrastructure requirements. The USACE Division commander has access to the capabilities of the entire USACE MACOM for support to Joint Force Commanders.

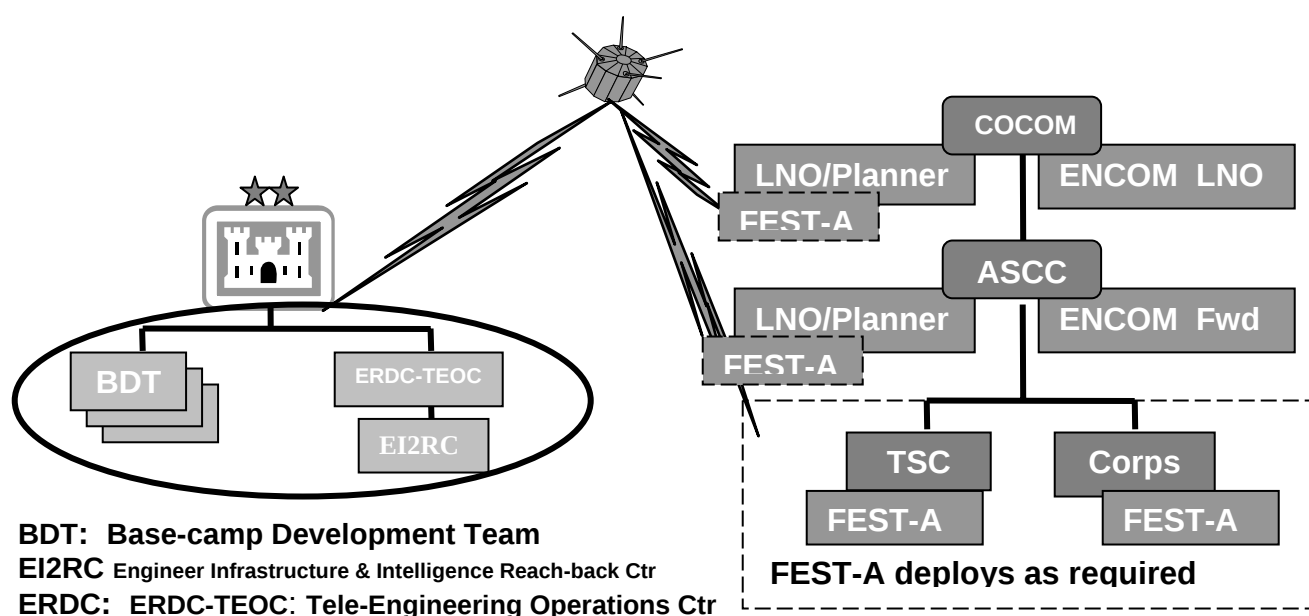


Figure 2. Deliberate Planning and Crisis Action Planning. USACE support for deliberate planning is accomplished through reach-back. In Crisis Action Planning, the division commander deploys one or more FEST-As as required.

USACE Support of Deployments

FEST-As and a FEST-M may deploy with a JTF. FEST-As may be required to deploy with the supported command or may move forward with the COCOMs deployable joint task force augmentation cell (DJTFAC) in support of the JTF.

Depending upon the size or requirements of a military contingency, the JTF may require the deployment of a FEST-M into the Area of Operation (AO), since the FEST-M is USACE's deployable contract construction organization. Within the operational chain of command, the FEST-M commander, normally an O-6, supports the senior engineer commander in the AO. Administratively, the FEST-M commander is subordinate to the USACE division commander. All USACE personnel deployed into the AO (including the FEST-As) are under the command and control of the FEST-M commander. The FEST-M maximizes use of reach-back capabilities including Tele-Engineering. While the supported command may provide basic sustainment services (e.g., bed-down, laundry, food) the FEST-M must be prepared to be self-sustaining. The FEST-M commander continuously shapes the capabilities of the organization to meet the ever-changing demands of the tactical situation and operational environment.

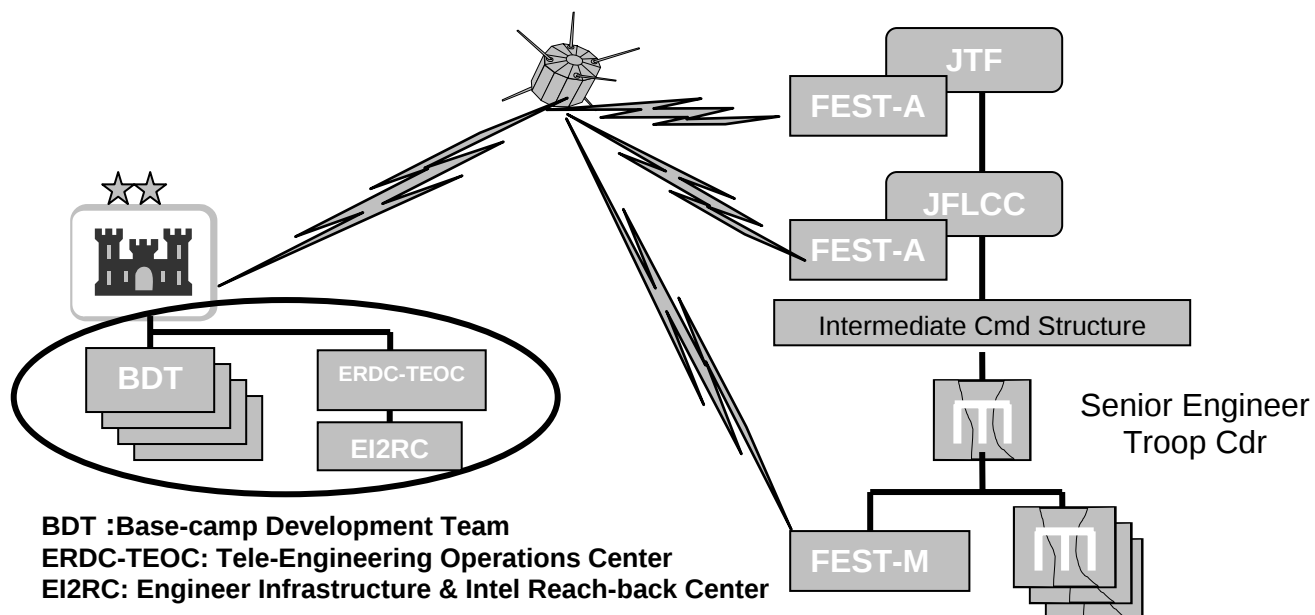


Figure 3. FEST-A(s) can deploy with supported commands' engineer staffs for planning augmentation, as required. The USACE FEST-M deploys for execution of USACE contract construction mission.

Deployment of FFE Teams During Contingencies and Natural Disasters

Since 2002, USACE has deployed all of the current FEST-As in support of JCS/Warfighter Exercises (Ulchi Focus Lens, Reception Staging Onward Movement & Integration, Cobra Gold, Balikatan, Bright Star, Blue Advance, New Horizons, etc.), Catastrophic Natural Disasters (i.e. Indian Ocean Tsunami Relief, Hurricane Katrina), and Combat Training Center Mission Readiness Exercises in preparation for deployments to Iraq and Afghanistan. Additionally, during the initial phases of OEF/OIF in 2002 & 2003, USACE organized, trained, equipped and deployed ten additional FEST-A teams and three FEST-Ms to the CENTCOM Area of Operations (AOR) and during the peak period of 2003 supported twelve FEST-As within this AOR. FEST-As assimilated into the Joint Interagency Multi-national (JIM) environment as demonstrated by their support of the 1st U.S. MEF, USAID, the Coalition Provisional Authority during OIF, and the JTFs for Tsunami Relief and Hurricane Katrina. One of the FEST-Ms supported the 416th Engineer Command, another became the Task Force Restore Iraqi Oil (Task Force RIO), and the third became the Task Force Restore Iraqi Electricity (Task Force RIE). The latter two FEST-Ms or Task Forces were each initially commanded by a USACE Brigadier General. A fourth FEST-M was created and trained on standby for the Northern Option during OIF I.¹⁷

All of these recent deployments reinforce the operational requirement for deployable Table of Organized and Equipment (TO&E) based FEST teams. These deployable teams will enable USACE to shape and institutionalize USACE capabilities for Stability, Reconstruction, and Homeland Security. It will also provide the Nation with highly adaptable and effective engineer and technical support for joint, combined and interagency/intergovernmental operations, responsive to the national strategies and

interests during peace and war, wherever needed in both domestic and international venues.

The USACE Campaign Plan & the Army Action Plan for Stability Operations

The USACE Campaign Plan as updated in May 2007 lists “Support SSTR and Homeland Security Operations”, as its number one campaign goal.¹⁸ This includes the shaping and institutionalizing of USACE capabilities for SSTR operations, and Homeland Security to provide the nation with highly adaptable and effective engineer and technical support for joint, combined and interagency/intergovernmental operations, responsive to the National Strategies and interest during peace and war. Under the National Response Plan, USACE will respond to the Department of Homeland Security domestically and to the U.S. Agency for International Development internationally.¹⁹

Objective 1a under the USACE campaign plan is to improve support to Combatant Commanders (COCOMs) across the full spectrum of military operations including stability, reconstruction and humanitarian support. USACE has been increasingly asked to contribute engineer and technical support to a variety of multinational programs mostly within the area of stability and reconstruction operations. This has occurred not only from the Army, but from interaction with Combatant Commanders, as USACE contributes to shaping the military and civilian response capabilities and plans for both stabilization and reconstruction operations, and responding to irregular challenges. The increasing operational tempo in current activities and the high probability of additional requests for support (including the proposed designation of the Army as the Defense Stability Operations Executive Agent) suggest the need for unified USACE leadership to foster an expeditionary mindset. Focused training, organizational alignment, and

research and development support will facilitate enhanced capability and mission execution.²⁰

Objective 1c under the USACE campaign plan is to formalize the USACE/ Engineer Command (ENCOM) role in Army and Joint doctrine, and in their relationships with the COCOMs.²¹ The current close command relationships between USACE and the 412th and 416th ENCOMs demand initiatives to shape and define their roles with the new expeditionary nature of USACE. Both USACE and the ENCOMs must seamlessly leverage their capabilities for improved war-fighter support. The capabilities of both organizations need to be synchronized to effectively address the full spectrum of operations. This is especially true for those that serve as critical enablers in a wide range of stability and reconstruction type activities. The modularity concept and doctrine in a joint and combined environment will be examined to integrate the roles of both organizations. Modularity may require adjusting existing unit designs to reduce or eliminate capabilities that can be more effectively furnished from pooled assets or reach-back. The current Field Force Engineering (FFE) concept and doctrine aligns well with Army modularity and will lead to an increased reliance on FFE deployable elements and reach-back support. The recently approved USACE Field Force Engineering FEST-M/A Force Design Update (FDU), will activate two Active Component FEST-Ms by October 2008, that will provide general support reinforcing to each of the Engineer Commands.²² This concept and the integration of engineer capabilities needs to be fully vetted and integrated with the overall engineer response, as well as linked to other DOD units such as Civil Affairs, for stability and reconstruction operations.

Objective 1d under this campaign plan is to improve the responsiveness and readiness of USACE civilians to support contingency operations. Through the newly integrated approach embodied in Readiness XXI²³, USACE will increase its preparedness to support the Army, DoD, and the Nation for civil and military contingencies, while executing its civil works and military construction programs. It will reshape the USACE culture and enhance our capabilities to meet new challenges for all contingencies, at home and abroad by ensuring that USACE has qualified, high performance expeditionary teams, prepared and positioned to support all civil and military contingencies with readiness as a specified requirement.

The final objective under Campaign Goal One, directs USACE to institutionalize the engineer and technical support role with the Department of Defense, Department of State and other federal agencies for Stability, Stabilization, Transition and Reconstruction Operations (SSTR).²⁴ USACE contributions to the joint force, to the Army, and to the Department of State are essential to meeting current challenges as well as preparing for challenges in the future. Engagement with the Department of Defense and Department of State policies, requirements, planning and resourcing components will contribute to shaping the military and civilian response capabilities and plans for SSTR operations, as well as for multinational emergency response to catastrophic natural disasters. Also necessary is the engagement with the COCOMS especially to influence the Theater Security Cooperation Plans and with JFCOM/TRADOC to ensure representation in war games and exercises. This engagement has occurred on a regular basis with the U.S. Pacific Command through the USACE Field Force Engineering (FFE) program since 1999 during numerous JCS

Exercises such as Ulchi Focus Lens, RSO&I (now known as Key Resolve), Cobra Gold, and during the PACOM Humanitarian Relief Operations under Joint Task Force 536 (Combined Support Force 536) in December 2005 in response to the Indian Ocean Tsunami.²⁵

The Army Action Plan for Stability Operations published in 2007 specifically directs the USACE Commanding General to provide training readiness oversight of the Theater Engineer Command (412th and 416th Engineer Commands) elements in order to ensure their capabilities to support Stability Operations are synchronized with the COCOMs and service component command plans.²⁶ It also directs USACE to institutionalize and improve the responsiveness and readiness of the civilians within the Corps of Engineers and their capabilities to mobilize in support of Army forces conducting Stability Operations. It requires that USACE update publications and regulations to address how to request and mobilize Field Force Engineering teams and incorporate FFE doctrine into both Army and Joint publications. Finally, this Army action plan directs USACE to develop the proper skill sets given the current and future full spectrum of engineering requirements to the Army's and the Nations needs.

The Current USACE FFE Program

Currently, the USACE FFE Program receives yearly Army Program Objective Memorandum (POM) funding from the Army Installation's Program Evaluation Group (PEG) under the Management Decision Package (MDEP), Defense Field Force Engineering (DFFE). The DFFE MDEP will provide the funding for the following types of FFE support in the 2008 to 2009 POM: the training and equipping of nine FEST-As; salaries for 38 full-time DA civilian FFE cadre personnel (COCOM/ASCC liaison

officers, planners, trainers, and technical engineering reach-back personnel); the training of eight Contingency Real Estate Teams (CREST), and eight Environmental Support Teams (EnvST); technical engineering reach-back support of the ASCC/COCOMs; system improvements and software upgrades to the Theater Construction Management System and Tele-Engineering system fielding; and the provision of USACE military readiness through the deployment of civilian and military personnel to JCS/Warfighter exercises.²⁷

The Chief Staff Army (CSA) Task Force Stability & Reconstruction Operations Initiative #24 directed a formal requirement and authorization for the Ad Hoc USACE teams that provide technical reach-back to USACE Labs and Center of engineering expertise. As a result of the approval of this Initiative by the Vice Chief of Staff of the Army (VCSA) on 4 January 2007, and the programmed stand-up of two Active Component FEST-M and eight FEST-A MTOEs with USACE civilian augmentation in FY08, additional funding and direct funded Full-Time Equivalent (FTE) civilian positions will be required as early as mid FY08.²⁸ This FY08 and beyond increase to the Defense Field Force Engineering (DFFE) program is critical to the success of this Initiative as approved by the VCSA. Essentially, the funding is required to hire the 104 USACE civilian augmentees that make up the majority of the positions in both of the FEST-A and FEST-M MTOEs that will make the teams fully mission capable. If the funding and FTE increase is deferred until FY10, it will be virtually impossible to implement this Initiative and support these FY08 Army MTOEs until FY2010.

As a result of the approval of the CSA Initiative #24 (FEST-A/M TO&E FDU), the DFFE program will require a substantial amount of growth to implement this CSA

Initiative within the directed timelines. Initial implementation needs to occur as early as late FY08 since the first FEST-A/M Active Component MTO&E Units with military personnel, equipment and civilian augmentation will occur in mid FY08. The funding required assumes that the 104 Department of the Army Civilians (DACs) assigned to these FESTs will train or support Warfighter Exercises 6 months/year & work at their USACE Districts 6 months/year.²⁹ Additionally, USACE estimates in their latest FFE Concept Plan, that they will need increased support levels and 20 additional Full-Time Equivalent (FTE) civilian positions for its FFE cadre to manage this greatly expanded program.³⁰ This increased requirement was presented on 17 January 2008 to the Army Installation PEG during the DFFE POM 10-15 MDEP Briefing. USACE requested that an additional \$29.8 million of funds be approved for FY2010 to 2015. The Installation PEG Chairman validated the additional funding requirement of \$25.8 million for the 2010 to 2015 DFFE Program at the completion of this briefing.³¹

Conclusions and Recommendations

The current capabilities of USACE through its Field Force Engineering (FFE) program and its deployable FEST-A and FEST-M MTOE teams are inadequate to meet the current and future needs of the Army in a Joint Interagency Multi-national (JIM) environment or during a SSTR operations. By Fiscal Year 2009 or 2010, USACE should have eight FEST-A and two FEST-M MTOE Teams fully staffed and trained through its proven Field Force Engineering program. It is projected that the FY2008 Center for Army Analysis (CAA) Total Army Analysis (TAA) force structure modeling for the 2010 to 2015 POM years will validate a requirement for at least twelve and possibly as many as twenty-four committed Brigade Combat Teams for a future Major

Contingency Operation (MCO) combined with the requirements of simultaneous smaller scale contingencies or SSTR operations.³² Since current doctrine allocates one FEST-A per committed BCT and one FEST-M per six to seven deployed FEST-As as well as one per Engineer Command (TAA 10-15 allocation rules)³³, the current number of programmed FEST-A and FEST-M MTOE teams will be inadequate. If the Army's Force Generation (ARFORGEN) model is considered, USACE will need to organize and man at least a total of twenty four to thirty-six FEST-A MTOE teams and at least six FEST-M MTOE teams to support the committed BCTs and Army forces during a future MCO or smaller scale contingency. Additional steps must be taken by USACE and the Army to strengthen the strategic engineering capability of USACE and the Army Engineer Regiment that is essential for supporting future military contingencies and SSTR operations. Some broad recommendations are:

- Once the FY08 Total Army Analysis (TAA) force structure modeling runs for the 2010 to 2015 POM years are complete, USACE needs to request additional FEST-A and FEST-M MTOE teams as well as a substantial increase in the number of cadre and funding for its Field Force Engineering program.
- Since the Army Installation PEG approved a increase to the USACE Field Force Engineering (FFE) program in the 2010 to 2015 POM Army program year budget, USACE must request bridge funding for late FY2008 and FY2009 that will enable it to properly man and train the Active Component FEST-A and FEST-M MTOE teams by the end of FY2008.
- USACE through its Field Force Engineering program, is currently very active in its peacetime support and engagement with the U.S. Pacific Command

(PACOM) during its annual JCS and war-fighter exercises, Humanitarian Assistance (HA) projects, Theater Security Cooperation (TSC) table-top exercises, and during JTF response to catastrophic natural disasters. It must mirror this same level of support and increase its peacetime engagement with the other Combatant Commands including the U.S. European Command (EUCOM), U.S. Southern Command (SOUTHCOM), U.S. Central Command, and U.S. African Command (AFRICOM). It must support their JCS and war-fighter exercises, any HA projects, any TSC initiatives that relate to infrastructure improvements, and especially in response to international catastrophic natural disasters. This same level of increased support should apply to the U.S. Northern Command (NORTHCOM) in its protection of the Homeland and its JTF response to catastrophic natural disasters.

Strategic engineering competence to include adequate Army engineer doctrine and technical engineering capabilities are essential elements of current and future Army Campaign Plan as well as current and future Combatant Command Theater Security Cooperation (TSC) Plans. The U.S. Army Corps of Engineers is properly positioned to support the new mission sets of future SSTR operations and the requirements of all the the Combatant Command TSC Plans that support the National Security Strategy. The expansion of the USACE Field Force Engineering program in the future will allow it to meet the needs of the Future Force, and provide support to the ASCCs/COCOMs and Joint /Interagency elements across the spectrum of conflict, war, SSTR operations as well as protection of the Homeland for the Army, the Department of Defense and the Nation.

Endnotes

¹ U.S. Department of Defense, *Joint Engineer Operations*, Joint Publication 3-34 (Washington, D.C.: U.S. Department of Defense, 12 February 2007), Annex A - Appendix B, Army Engineer Organizations and Capabilities & Operation Iraqi Freedom Engineer Lessons Learned, US Army Engineer School.

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³ Ibid.

⁴ Brenda D. Wyler, Assistant Director, Warfighter, HQUSACE, Directorate of Research & Development, email messages to author, 3,8 December 2007. Ms. Wyler was the designated USACE lead for support of Task Force Stability Operations and Initiative #24.

⁵ U.S. Department of Defense, *Military Support for Stability, Security Transition, and Reconstruction (SSTR) Operations*, Directive 3000.5 (Washington, D.C.: U.S. Department of Defense, 28 November 2005), 1.

⁶ U.S. Department of the Army, DAMO-FM, "Modified Concept Plan for Enhancement of the U.S. Army Corps of Engineers Field Force Engineering (FFE) Capabilities," Memorandum for U.S. Army Corps of Engineers, Washington D.C., 6 May 2003.

⁷ William H. Fritz, Jr., Chief, Concepts, Plans & Doctrine Branch, HQUSACE, Office of the Deputy G3, Directorate of Military Programs, email messages to author, 3,7,8 January 2008.

⁸ U.S. Department of the Army, *Engineering Operations*, Field Manual 3-34, (Washington, D.C.: U.S. Department of the Army, 2 January 2004), 3-20.

⁹ LTC Bryan Watson, and LTC David Holbrook, "The Future Engineer Force, Projecting the Capabilities of the Regiment", *U.S. Army Engineer School, Engineer Magazine*, January/March 2004,1-9.

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¹¹ U.S. Department of Defense, *Joint Engineer Operations*, Joint Publication 3-34, (Washington, DC. U.S. Department of Defense, 12 February 2007, Annex A to Appendix B, Army Engineer Organizations and Capabilities, p4.

¹² Ibid, p4-6.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Michael A. Alexander, "U.S. Army Corps of Engineers FFE Briefing for the 412th Wartrace Conference", briefing slides, (Vicksburg, MS, 412th Engineer Command, 6 June 2006).

¹⁷ William H. Fritz, Jr., Chief, Concepts, Plans & Doctrine Branch, HQUSACE, Deputy G3 Division, Directorate of Military Programs, email messages to author, 3,7,8 January 2008.

¹⁸ U.S. Army Corps of Engineers, *Campaign Plan*, (Washington D.C., U.S. Army Corps of Engineers, May 2007), 5.

¹⁹ Ibid.

²⁰ Ibid, 5-6.

²¹ Ibid, 6.

²² U.S. Army Corps of Engineers, "*Operations Order (OPORD) 2008-09, USACE, Forward Engineer Support Team (FEST) Activation*", (Washington D.C.: U.S. Army Corps of Engineers, 5 February 2008), 14.

²³ U.S. Army Corps of Engineers, "Weekly Focus – Readiness XXI", 27 January 2006; available from website: (<http://www.hq.usace.army.mil/cepa/corpspoints/1-27-06.htm>); 7 January 2008. Commander's Intent for Readiness XXI: Shape and institutionalize USACE capabilities for Stability, Reconstruction, and Homeland Security. Provide the Nation with highly adaptable and effective engineer and technical support for joint, combined and interagency/intergovernmental operations. Be responsive to the National Strategies and interests during peace and war, wherever needed in both domestic and international venues. Key tasks: 1) Organize and train the workforce to simultaneously maintain program development and execution and operate as expeditionary teams. (2) Continually capture lessons learned to improve and establish processes to ensure that identified improvements occur to achieve efficiency and synergy. (3) Develop a standardized deployment process to support military and civil operations. (4) Leverage our technology and workforce to support the full spectrum of military and civil contingency operations. (5) Become more integrated with other agencies and commands to provide more effective support to the Nation, DoD, and the Army. (6) Develop metrics that measure the readiness posture of the command and integrate these metrics into the Army Strategic Readiness System. End state: USACE is a responsive command that can rapidly deploy trained/equipped teams from its workforce to contingencies, worldwide, leveraging technology and reach-back capabilities to provide support for military and civil operations.

²⁴ U.S. Army Corps of Engineers, *Campaign Plan*, 7-8.

²⁵ William H. Fritz, Jr., Chief, Concepts, Plans & Doctrine Branch, HQUSACE, Office of the Deputy G3, Directorate of Military Programs, email messages to author, 3,7,8 January 2008.

²⁶ U.S. Department of the Army, *Army Action Plan for Stability Operations*, Army Campaign Plan Decision Point 105 (Washington, D.C.: U.S. Department of the Army, 2 August 2007), 18.

²⁷ William H. Fritz, Jr., Chief, Concepts, Plans & Doctrine Branch, HQUSACE, Office of the Deputy G3, Directorate of Military Programs, email messages to author, 3,7,8 January 2008.

U.S. Department of the Army, DAMO-FM, "Modified Concept Plan for Enhancement of the U.S. Army Corps of Engineers Field Force Engineering (FFE) Capabilities," Memorandum for U.S. Army Corps of Engineers, Washington D.C., 6 May 2003.

²⁸ U.S. Department of the Army, DAMO-FMO, "Forward Engineer Support Teams Main and Advance (FEST M and A) Force Design Update", Staffing Form 5 for the Vice Chief of Staff Army, GEN Cody, U.S. Department of the Army, Washington D.C., 12 December 2006. This Form 5 was signed by GEN Cody, the VCSA on 4 January 2007. The key points of this HQDA Form 5 were that it implements CSA Task Force Stability & Reconstruction Operations Initiative #24: eliminates the capability gap to support the COCOM with deployable, specialized engineering capabilities. Creates a type B, deployable, specialized MTOE in the operating force that currently does not exist: capitalizes on the engineering expertise of our DACs within USACE. With no growth, Army activities 2 FEST-M and 8 FEST-A in the Active Component in FY08 based on current GWOT requirements; Army will determine total requirements; Army will determine total requirement during TAA 10-15.

²⁹ U.S. Army Corps of Engineers, *Concept Plan to support USACE Field Force Engineering (FFE)*, (Washington D.C.: U.S. Army Corps of Engineers, 30 November 2007), 1-2.

³⁰ Ibid.

³¹ William H. Fritz, Jr., "U.S. Army Corps of Engineers Field Force Engineering Requirements Briefing to the II PEG", briefing slides, (Washington D.C., the Pentagon: U.S. Army, 17 January 2008).

³² William Clarkson, Engineer Organization Integrator, HQDA, Pentagon, G-3 Force Management Office, email messages and telephone conversations with author, 15 September 2007 to 28 February 2008.

³³ Ibid.

