

# Bridging the Engineer Gap From Tactical to Strategic

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Many times, engineers are thrown into an exercise regardless of their training. The result is the placement of tactical engineers at an operational level for which they don't have the appropriate skill set. Engineers who can bridge this gap are the "Heroes of the Exercise," providing engineer planning and reachback to consistently stay ahead of the commander's decision cycle.

In 2009, the first joint force engineer command (JFEC) was activated in Afghanistan, centralizing engineer efforts and assets across the theater to facilitate and coordinate engineer operations. In 2011, U.S. forces saw another first for the JFEC concept; the integration of this team of engineers from all services in support of U.S. European Command (USEUCOM). With help from the U.S. Army Corps of Engineers (USACE) and the U.S. Army Reserve 416th

Theater Engineer Command, USEUCOM tested the JFEC ability to coordinate engineer assets outside the war zone during a training exercise. A deployable command post (DCP) (Figure 1) was established that required modifying the joint manning document to incorporate field force engineering and service component engineers to become a JFEC.

The exercise simulated major combat operations from the reception, staging, onward movement, and integration of troops and equipment through the "Phase III-Dominate" operations of the joint campaign. To support operations, the JFEC—

- Facilitated informative update sessions and mission planning synchronization meetings to increase the engineer unity of effort.

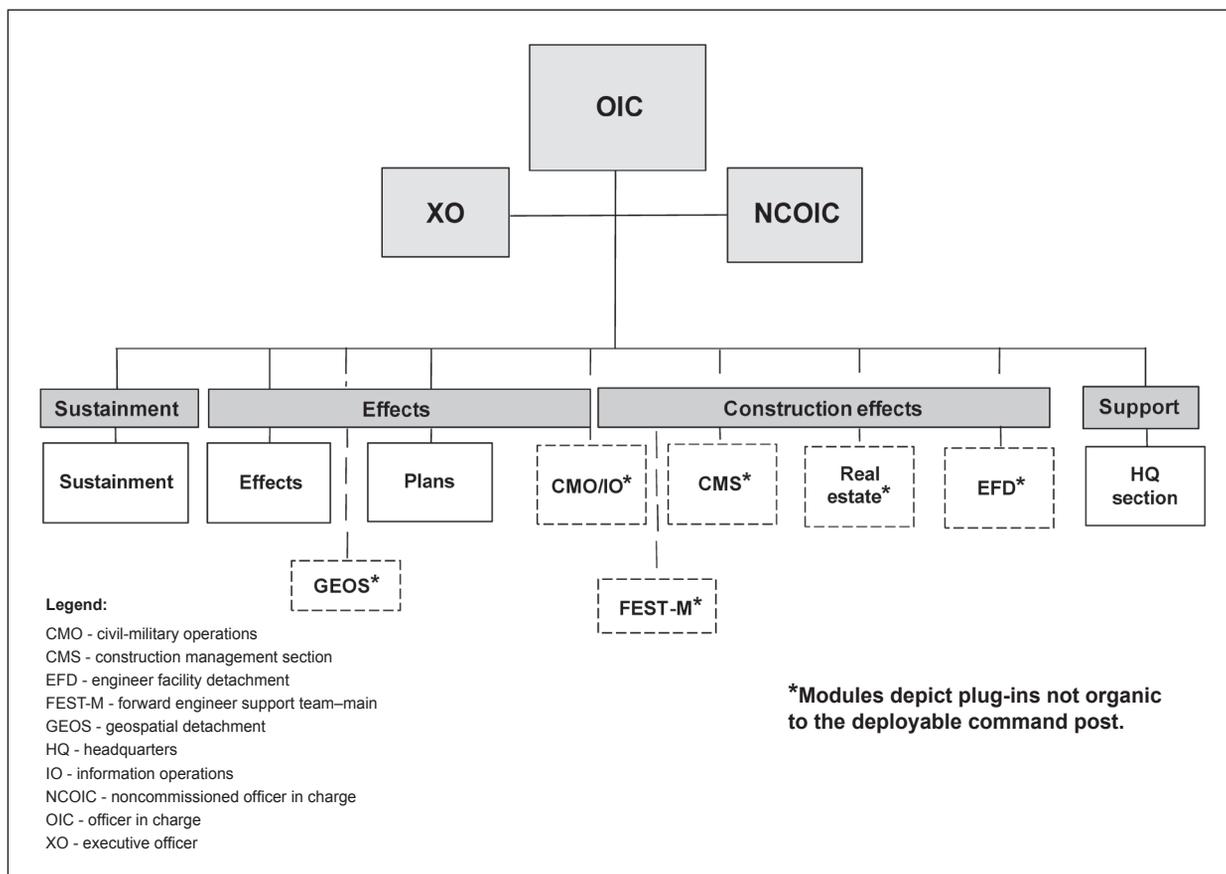
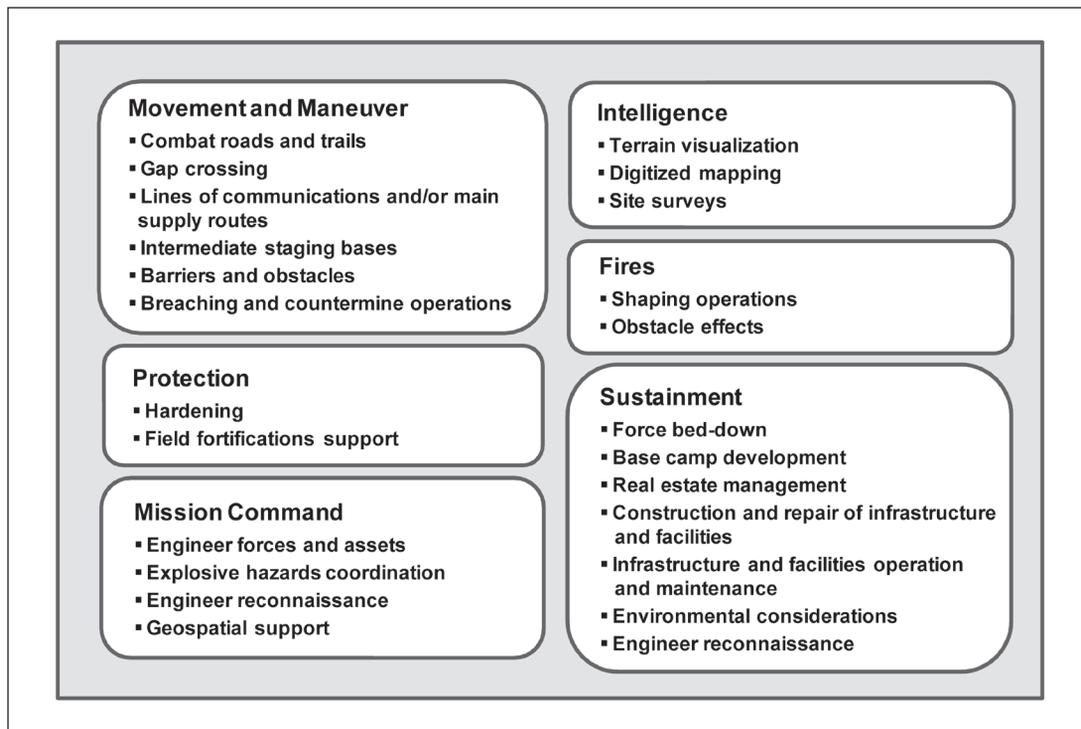


Figure 1. Deployable command post



**Figure 2. Engineer support to joint functions**

- Coordinated effects—tactical through strategic—of U.S. and coalition engineers.
- Established a request-for-information process for the transparency of information requirements.

USACE and the 416th Theater Engineer Command were also heavily involved in developing a master scenario events list, generating events that would provide the desired engineer support to joint functions (Figure 2).

### Effective Demonstration

The exercise was an astounding success. The JFEC demonstrated the effectiveness that its structure and flexibility provided, based on the joint engineer capabilities inherent in the organization. The JFEC was a superior fit for joint task force (JTF) engineer operations. The team’s efficiency was repeatedly demonstrated by its adaptive response to the scenario and its technical analysis of more than 20 situational events. Response times and communication up and down the engineer chain were exceptional. All engineer events injected were successfully analyzed, resolved, and communicated between the JFEC, the JTF, USEUCOM, and all subordinate commands via daily engineering synchronization meetings.

The USACE field force engineering cadre embedded in the exercise acted as a forward engineer support team and simulated field force engineering support from forward engineer, contingency real estate, and environmental support teams. Whenever forward engineer support team members were not working on requests for information or products,

they were anticipating future missions such as conducting river crossings, restoring key infrastructure, developing infrastructure products, and researching responses. The exercise also tested the forward engineer support team’s ability to establish and use teleengineering communications equipment to communicate with the USACE Reachback Operations Center in Vicksburg, Mississippi; conduct reconnaissance; develop a base camp; and test contracting and acquisition support.

During the exercise, the JFEC supported both the JTF engineer and the combatant command engineer. To do this, the staff was divided as illustrated in Figure 3, page 10. This allowed the JFEC to provide additional operational and tactical engineering capabilities not normally available during an exercise. It gave USEUCOM a powerful liaison connection to the engineers on the ground. Service engineers were integrated from the strategic level down to the tactical level, with the JFEC facilitating engineer coordination. The JFEC configuration into “effects,” “construction effects,” and “operations” functional teams created a significant force multiplier for future engineer operations and planning. The effects team focused on assured mobility in order to provide combat engineering support to enhance protection. The construction effects team focused on base and host nation infrastructure to support the JTF commander’s campaign plan. The operations team managed the functions of the JFEC.

In future exercises or operations, the JFEC configuration and duties for the task-organized effects and operations teams would include the usual functions of

current operations, future operations, and plans, with the addition of reachback assistance for the following:

- Contract construction.
- Heavy construction.
- Theater construction management system.
- Battle tracking.
- Targeting.
- Infrastructure assessments/sewer, water, electricity, academics, trash, medical, safety, and other considerations.
- Basing and base camp development.
- Bed-down.
- Route clearance.
- Lines of communication such as roads, railways, ports, and airfields.
- Environmental baselines.
- Real estate.
- Report generation.
- Task organization.
- Power generation.
- Geospatial.

The JFEC maintained an operational and tactical focus on engineer activities in each of the countries inside the joint operations area. This allowed USEUCOM engineers to maintain strategic focus and synchronize all engineering activities throughout the theater.

### Proficient Coordinating Mechanism

The JFEC was a force multiplier, providing a proficient coordinating mechanism for exercises and real-world operational requirements, bridging the gap between

the tactical and strategic levels. It provided exceptional engineer planning and reachback that allowed engineers to stay ahead of the commander's decision cycle. While the JFEC can do it all, it is not necessarily a catchall solution for every JTF. If the JTF headquarters is based around a corps or division headquarters, there would probably be sufficient engineer staff that a JFEC would not be needed. However, if the JTF engineer needs mission command, is based on an Army service component command, or is operating a stand-alone JTF that was built from scratch, the JFEC concept can correct an engineer staff shortage.

Depending on the mission and the assigned forces, the theater engineer command DCP (with joint augmentation) can transition into one of two functional roles. When there are theater level engineer forces such as forward engineer support teams or prime power, topographic, or theater construction units, the theater engineer command DCP provides mission command for these units and forms the basis of the joint force commander's engineer staff. When mission command is not needed, the theater engineer command DCP can still be an extension of the geographic combatant command engineer staff or form the base of the engineer staff and would be designated as the joint forces engineer directorate (JFED) (Figure 4).

### Focus on Joint Operations

Sometimes staff maneuver elements have interpreted the command part of "joint force engineer command" to mean that the JFEC is a maneuver element; thus the recommendation for designation as a directorate when applicable. This would allow the geographic combatant command to use the JFED as a combatant command engineer asset, pushed forward to focus on the joint operational area while the actual combatant command engineer focuses on the entire theater. Far too often, the combatant command engineer staff assumes risks while covering down on both missions (in the real world and during exercises).

The JFED would transition from a hypothetical concept to a real capability by using Soldiers from the theater engineer command DCP, which is standard practice today. They would become the JFED once the service component engineer linkage was established. In addition to service component engineer augmentation to maximize service competency, the JFED would receive designated liaison officers from the three contract construction agencies—USACE, the Air Force Center for Environmental Excellence, and the Naval Facilities Engineering Command—

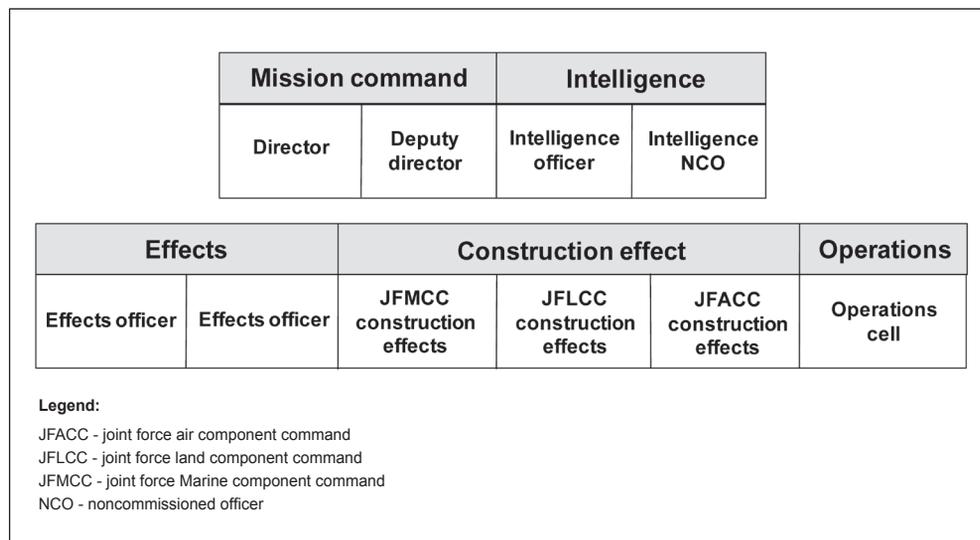
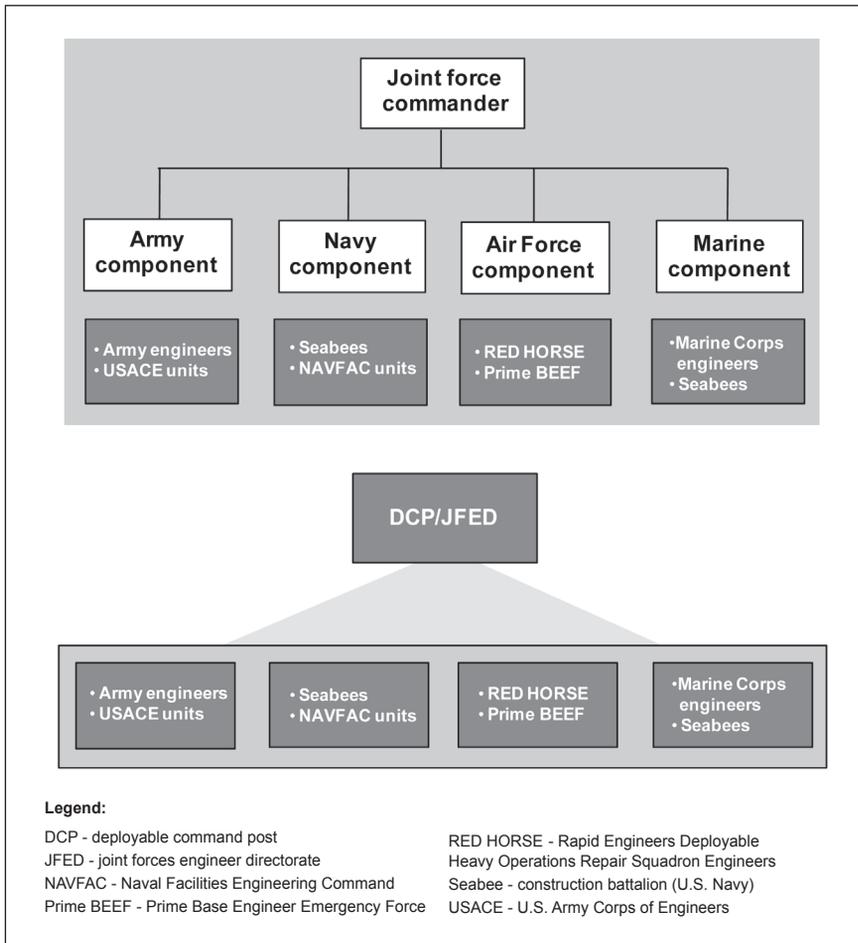


Figure 3. Exercise concept



**Figure 4. Theater engineer command deployable command post change to joint forces engineer directorate**

as well as coalition and host nation liaison plug-ins to facilitate the best use of partner and host nation engineering and contracting capabilities. The theater engineer command DCP would still support the Army service component command theater-wide administrative control responsibilities; but in this particular case, the theater engineer command DCP would assume a joint engineer mission by incorporating service component engineers.

Under the legacy engineer command structure, the 412th and 416th Engineer Commands had habitual relationships with the geographic combatant commands and their Army service component commands—the 412th Engineer Command with USEUCOM and U.S. Pacific Command and the 416th Engineer Command with U.S. Central Command and U.S. Southern Command. In 2009, the 412th and 416th Engineer Commands received permanent orders to reorganize and were redesignated the 412th and 416th Theater Engineer Commands. After this transformation, the habitual relationships ended, allowing DCPs from both theater engineer commands to support any Army service support command or geographic combatant command contingency operation. By continuing the established model of having a theater engineer command DCP on the joint manning

document as the base for a JFEC or JFED, the theater engineer command DCPs can deploy small teams to the joint task force and the combined forces land component command engineer staffs. By serving as the theater engineer staff and specializing in joint engineer functions, the JFED can become a learning organization, maintaining cohesion during geographic combatant command personnel turnover.

This JFEC/JFED concept was put into practice for USEUCOM. Because of coordination between the staffs of the 416th Theater Engineer Command and the USEUCOM Directorate of Logistics and Security Assistance, the exercise made the JFEC concept a reality for geographic combatant command use. There is now a methodology to transform the concept into reality. The next steps will be to standardize the JFEC and JFED naming convention for supported maneuver units and to secure a commitment from geographic combatant commands to fill engineer joint manning document requirements with theater engineer command DCP JFEC/JFED functional capabilities.



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