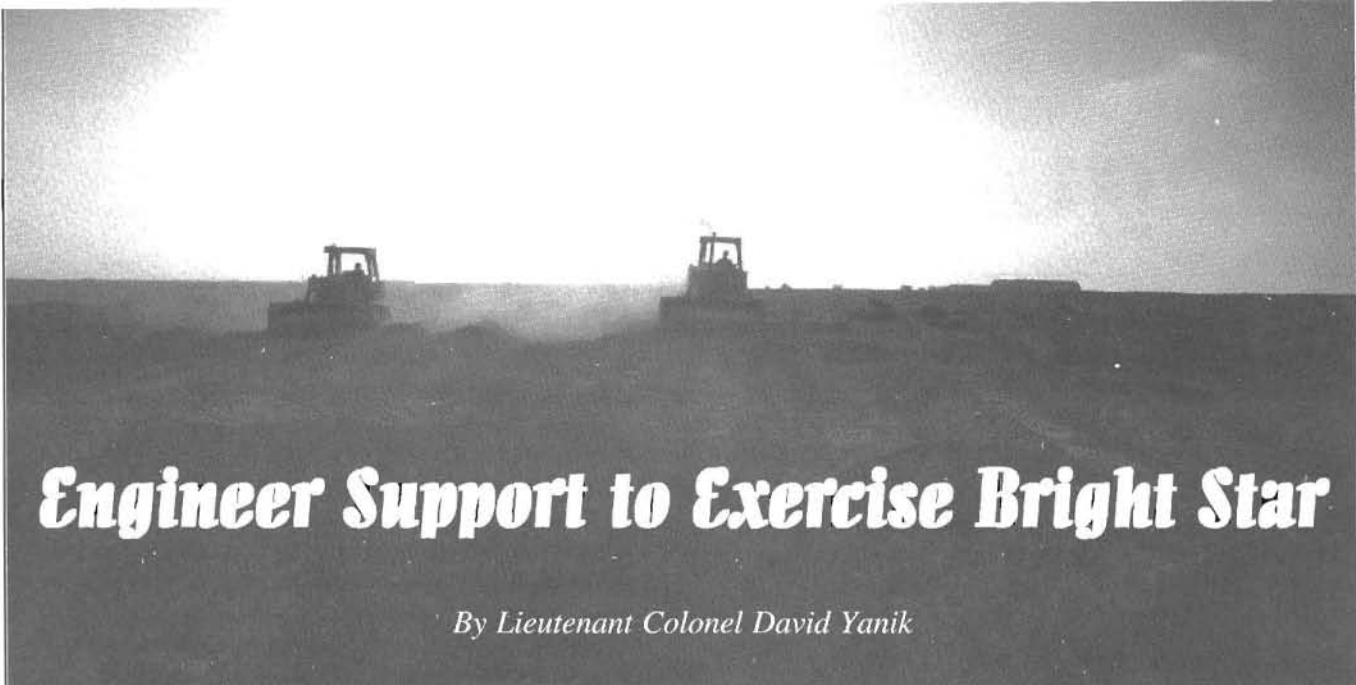




Engineer Support to Exercise Bright Star

By Lieutenant Colonel David Yanik

Planning support for an off-site exercise is always a challenge for engineers. Anticipating Class IV supply needs, melding participant requirements with resources, learning and understanding local conditions, setting priorities, and flowing proper troop skills and equipment to meet the phased needs of the plan are all considerations facing a commander and his staff. Additionally, any commander is challenged to integrate good mission-essential task list (METL) training into an operation without compromising the services the exercise director expects. These challenges are magnified when the exercise is held in the desert halfway across the world. Such was the task given to the 416th Engineer Command (ENCOM) and the 92d Engineer Battalion (Combat)(Heavy) in Bright Star 99/00.

Exercise Bright Star

United States Central Command (CENTCOM) conducted Bright Star 99/00 in Egypt during October and November 1999. It took place in the northern desert region of the country as a joint/combined/coalition, computer-aided command-post and field-training exercise. It was the most significant coalition military training exercise ever conducted by CENTCOM and the largest-scale deployment and employment exercise in the CENTCOM area of responsibility outside of the Arabian Gulf. More than 17,000 representatives from all U.S. service components, the Egyptian military, and nine other European and Gulf States partners participated.

As the subordinate engineer command of the U.S. Army Central Command (ARCENT)/Third U.S. Army, the 416th ENCOM was the command-and-control headquarters for four engineer units:

- The 92d Engineer Battalion (Combat)(Heavy), Fort Stewart, Georgia, was the lead unit for general support.
- The 1st Platoon, Company B, 249th Engineer Battalion

(Prime Power), Fort Bragg, North Carolina, set up a 110-volt power grid to support U.S. standard equipment and minimize use of tactical generators.

- The 100th Engineer Company (Topographic), Fort Bragg, provided terrain analysis and bulk map sheet production.
- A detachment from the 306th Engineer Company (Separate)(Combat Heavy), a U.S. Army Reserve unit from Fort Totten, New York, deployed early on during the buildup to assist with interior wiring.

Planning for Bright Star 99/00 began during the previous exercise. At that time, representatives from ARCENT and the 416th ENCOM identified the need for permanent facilities for future exercises. The representatives developed a plan for a command-and-control complex to be funded under the Exercise-Related Construction (ERC) Program.

The Joint Chiefs of Staff approved the funding in 1999. The original proposal included a series of K-span buildings to be built by Reserve Component soldiers beginning in May 1999. When the evolving situation in the Balkans caused uncertainty as to funding for the project, a contracted design-construct project was coordinated with the Cairo Area Office of the Transatlantic Program Center, U.S. Army Corps of Engineers (TAC). The 416th ENCOM (Forward Cell) in conjunction with TAC-Cairo completed a complex of three pre-engineered (Butler-type) buildings. There were two 18,000-square-foot main exercise command-and-control buildings and a 4,000-square-foot Sensitive Compartmented Information Facility (SCIF).

416th Engineer Command Mission

The 416th ENCOM, with headquarters in Darien, Illinois, is a Reserve Component echelons-above-corps command-and-control headquarters that reports directly to the U.S. Army Reserve Command. A forward cell of 20 Active and Reserve Component soldiers, collocated

with ARCENT at Fort McPherson, Georgia, directly supports the ENCOM's Middle East/CENTCOM area of responsibility planning mission. The forward cell was ENCOM's primary planner for exercise Bright Star 99/00.

The 416th ENCOM's primary objectives during this exercise were to—

- Provide engineering services to exercise participants through the command and control of assigned units.
- Provide technical and planning assistance, via a liaison officer, to the 377th Theater Support Command (TSC) in testing and validating its new role as overall theater logistics manager.
- Perform these duties while testing the structure and operating procedures of its early-entry module that deploys in support of ARCENT in case of a contingency.

The unit phased three rotations of soldiers into theater to man the command-and-control cell. Each rotation included regular Army officers and enlisted soldiers and reservists on 21-day (or longer) orders. The rotations reflected the Total Army concept that embodies the ENCOM itself. Each rotation with its mix of Active and Reserve Component soldiers blended the experience of active soldiers with the technical skills of part-time unit members. Rotations were structured around anticipated missions and the skills required at important junctures of the exercise, while taking into consideration the transportation constraints of a deployment halfway across the world.

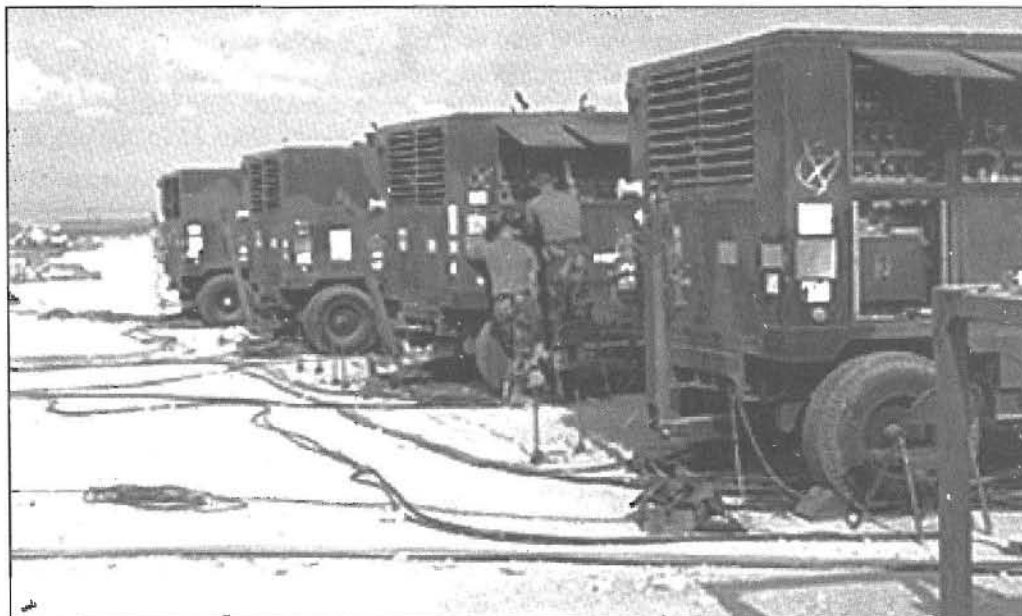
At the exercise site, the ENCOM staff focused on what an engineer headquarters does best: identifying engineer requirements, assigning work, monitoring the progress, performing quality control, and solving problems. Its main tasks were to provide assistance to the engineer units in the reception,

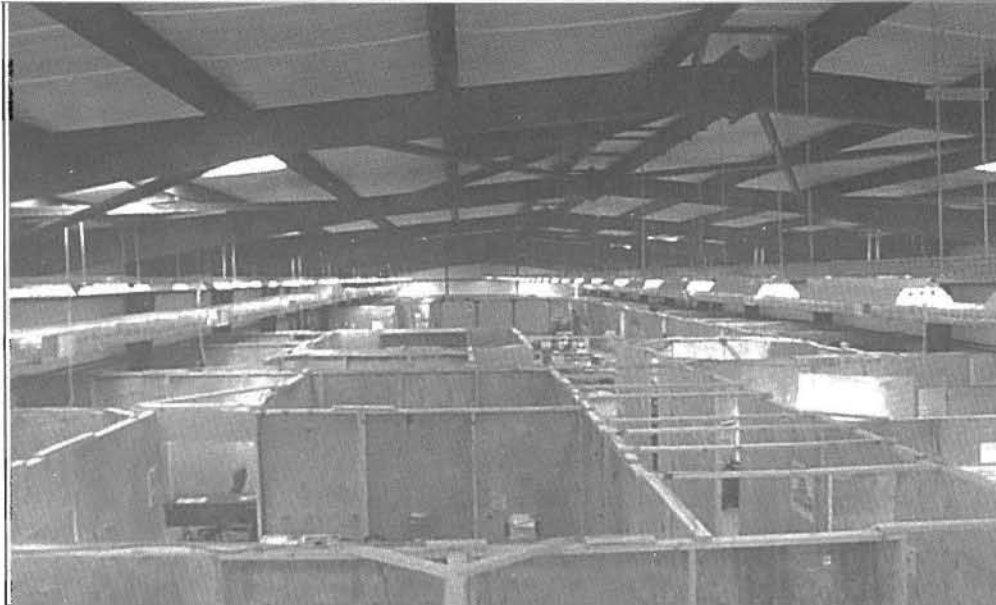
staging, onward movement, and integration of personnel and equipment; coordinate and prioritize construction effort during the buildup and sustainment stages; and coordinate the orderly closeout of engineer activities and the installation before redeployment. The cell of three officers and two or three NCOs was constantly in the field inspecting progress, coordinating support, and preparing for the next phase of infrastructure development. The austere communications capabilities, especially during the startup and base-development stages, made direct contact with units necessary to meet the changing conditions and to rapidly complete projects for arriving soldiers.

To track and control the operation, a master list of requirements and projects was developed before departing from CONUS. This list was the baseline for all activities. At the exercise site, the ENCOM became the single point of contact for all new support requests. Units and deploying headquarters, including other services and coalition partners, were instructed to submit work and support requests through the ENCOM cell. The liaison officer stationed with the 377th TSC became the point of contact for most TSC requests, which were tracked through an Access database. At daily status meetings attended by representatives from subordinate engineer units and the supported headquarters, priorities were assigned, progress tracked, and work integrated into each unit's schedule. This meeting gave staffs an opportunity to raise issues, disseminate important information, and put out fires. Additionally, each unit submitted daily situation reports, which were consolidated and forwarded appropriately. The ENCOM now had a valuable electronic record of Bright Star 99/00 activities.

An added benefit of the exercise was recording and evaluating some of the field-expedient structures fabricated and used by participating units. Valuable data was gathered on

Soldiers from the 249th Engineer Battalion, Fort Bragg, work continuously to keep the lights running during Bright Star 99/00.





Typical view of the interior partitions and finish of the exercise control building used by the major participants of Bright Star 99/00. Panels and electrical wire were completed by the 92d Engineer Battalion (C)(H).

desert theater-of-operation structures that were constructed under conditions that might apply in other situations. (The 416th ENCOM, in conjunction with the Engineer School at Fort Leonard Wood and the Huntsville Division of the Corps of Engineers, continuously upgrades its database of theater-specific structures in the Theater Construction Management System program.)

92d Engineer Battalion Mission

The battalion received notice to participate in Bright Star 99/00 in February 1999. During a series of planning meetings and site surveys, it became apparent that Bright Star would provide an excellent opportunity to train and evaluate most of the battalion's METL tasks. Unlike typical exercises that almost exclusively emphasize horizontal or vertical skills, this deployment provided a good balance of carpentry, electrical, and interior finish work along with ample dozer/blade, line haul, and other horizontal tasks.

Having time to train was important to the battalion commander. The 92d was OPCON to the 416th ENCOM, but when the ENCOM's base-development mission could not keep the entire unit occupied, the battalion staff was ready with plans to meet its own training and readiness objectives. The staff took advantage of every available training opportunity. Although significant effort was required during the initial setup stages of the exercise, once the exercise platform was in place, there were many opportunities for unit-directed training. This included honing both special staff skills and combat engineer skills through the support of the 3d Infantry Division's field-training-exercise operations.

By the time the exercise was completed, the battalion had built more than 25 miles of force-protection berm, reconstructed an old ammunition supply point (ASP), and developed a new open-storage ASP for coalition forces. It cleaned up and made functional the water system for the tracked-vehicle wash rack, assembled more than 210 wooden field latrines that had been prefabricated at home station, and wired and partitioned more than 40,000 square feet of exercise area. It constructed countless guard shacks, guard towers, tables,

tent floors, and shelves; spread more than 4,000 cubic meters of gravel in parking lots and other vehicle storage areas; and dug more than 35 tracked-vehicle positions for the 3d Infantry Division.

The 92d operated an efficient Class IV yard and, when the exercise was over, the battalion collected, inventoried, and warehoused the majority of these items for future use. The projects required 191,000 square feet of plywood, a ton of nails, and 71 miles of interior wire. The tasks were accomplished with no major accidents or injuries and an equipment availability rate well above 80 percent.

249th Engineer Battalion Mission

1st Platoon, Company B, 249th Engineer Battalion (Prime Power), is stationed at Fort Bragg, while the battalion is headquartered at Fort Belvoir, Virginia. The platoon was involved in the exercise planning from the beginning. Using site surveys and after-action reviews from past exercises, 249th personnel decided to deploy four 750-kilowatt generators to support the main camp grid and two 500-kilowatt generators as a dedicated power source for lights and air conditioning for the main exercise buildings and the Sensitive Compartmented Information Facility. This translates into a capability of producing enough electricity to support a town of 10,000 people.

A team of one warrant officer and 10 sergeants designed the grids, laid cable, located transformers and breaker boxes, and prepared the plants for operations. The team installed more than 44,000 feet of high-voltage cable and 14 transformers, which provided power from three generators serving more than 2,000 customers. The 249th provided uninterrupted power for 45 days with no equipment-induced electrical outages to the 110/208 grid while pulling all scheduled services. There were no work-related injuries.

The prime power battalion is the only one of its type. Assigned directly to the U.S. Army Corps of Engineers, it is generally deployed to support disaster relief or in an advisory role to operations in locations such as the Balkans. There, the unit's technical expertise is used to maintain host-nation

assets. Exercises of the magnitude and scope of Bright Star are rare and pose unique challenges for soldiers of the 249th. For example, the soldiers are seldom asked to incorporate different configurations of distribution systems as they were during Bright Star 99/00. And seldom do they have an opportunity to perform and train on so many individual and collective skills. By the deployment's end, the squad had trained and validated 95 percent of its METL squad.

100th Engineer Company Mission

Part of the 30th Engineer Battalion (Topo), Fort Bragg, the 100th Engineer Company (Topo) was the only engineer unit assigned to the 416th ENCOM that was not associated with the facilities support mission. A combat topographic company, the 100th deployed to Bright Star 99/00 with a seven-person terrain-analysis squad and its heavy print-plant squad.

Assigned to the ENCOM for administrative and logistics support, the 100th was directly tasked by the ARCENT G2. The terrain-analysis team set up operations near its customers within the ARCENT headquarters. Using digital data and satellite imagery supplied by the National Imagery and Mapping Agency (NIMA), the team built and reproduced numerous map products and other tactical decision-making aides. Major projects completed during the exercise were maps showing the training areas and ranges, a special two-map set of navigational aids for the aviation units, special obstacle maps for the exercise, and 14 other special maps. This effort translated into 1,400 man-hours of work that produced maps consuming more than 1,300 linear feet of map paper.

The heavy print-plant section included seven soldiers and a field bulk-production plant consisting of three vans and an associated support trailer. The crew, which received assignments through the ARCENT G2, completed bulk runs of special maps produced for a specific phase of the exercise and stock maps from the NIMA inventory. In 105 operational hours, the print plant produced 9,000 map sheets and distributed more than 5,000 of them to soldiers in the field. The project allowed evaluation of all of the team's major METL tasks.

Bright Star 99/00 was an excellent training vehicle for the terrain-analysis team. Being a very specialized organization, the skills are hard to train and often overlooked at home station. This deployment allowed team leaders to instruct, evaluate, and reinforce the skills needed by their soldiers. For the new and inexperienced unit members, this was especially valuable because it was the first opportunity to apply perishable 81-series military occupational specialty skills learned at advanced individual training.

The efforts of these two squads proved that even in this age of digital technology, organizations like the 100th are still required. During deployments, soldiers on the battlefield will always need paper map products, because nothing beats

their detail and resolution. And nothing beats the capability of field topographic units to provide the broadest dissemination of terrain intelligence.

Lessons Learned

Exercises are great opportunities to learn and train. They require much of the same detailed planning effort as tactical deployments but are executed at a pace more conducive to training, learning, experimentation, and trial and error. The engineer organizations participating in Bright Star 99/00 came away with a better understanding of their strengths and weakness, the status of their METL proficiency, and the direction needed for improvement.

In austere environments like Egypt, if you don't plan for it before deployment, you may have to do without it. In the Third World, westerners cannot count on having access to supplies and services in the quantities an exercise like Bright Star may require. Predeployment site surveys and planning conferences help ensure that critical items of support are available to meet mission demands.

Engineers must be given sufficient priority for available air- and sealift at the beginning of the exercise. Having engineer units on the ground as early as possible with the right equipment and soldier skills ensures that satisfactory infrastructure is in place before the main body of the exercise arrives.

Engineers must lead the way in anticipating, identifying, and planning support to other exercise participants. Many units were unable to adequately identify their support requirements or were very late in submitting these requests. Developing a database of common support tasks at the Army and ENCOM levels saves countless hours of coordination and planning and provides better preparation for future exercises with similar force mixes.

Conclusion

Participation in Bright Star 99/00 was a success for all engineers involved. The exercise mission, force structure, and austere desert conditions provided an excellent environment for all levels of command to train, test, and evaluate unit readiness. Across the board, engineer participants were satisfied that their time was well spent and that the experiences and lessons taken from the exercise will be drawn upon for years to come.



Lieutenant Colonel Yanik is an Active Guard Reserve officer serving as a senior team leader, 416th ENCOM Forward Cell, Fort McPherson, Georgia. Previous assignments include service with Third U.S. Army; FORSCOM; the U.S. Army Reserve Command; 412th ENCOM Forward, Heidelberg, Germany; 104th Division (IT); 70th Regional Support Command; and CJTF-Kuwait. LTC Yanik holds a bachelor of science degree in civil engineering from Lafayette College, Easton, Pennsylvania, and is a graduate of the Engineer Officer Advanced Course and Command and General Staff College.