Chapter 6

Peacekeeping Operations

The French engineer force, as part of the French element of the Multinational Peacekeeping Force, was initially tasked to clear mines, debris, and fortifications from a large part of the city center. The density of mines and booby traps was exceptionally higher than that found in the mining doctrine of any European army. The level of danger was extremely high and the need to be physically and mentally prepared to deal with the stress became apparent.

French Army Combat Engineer Experience in Beirut, Lebanon

Engineers who are part of a peacekeeping force must prepare to operate in a tense environment. These operations are inherently stressful due to the peacekeeping force’s position between two (or more) armed belligerents. During these operations, engineer missions cover a broad spectrum from facilities construction to minefield clearing.

PLANNING CONSIDERATIONS

Specific planning guidance is provided for each peacekeeping operation. Memorandums of instruction (MOIs) are prepared by the major organization providing units and elements for a US peacekeeping contingent. These MOIs contain information from the terms of reference that govern United States (US) military participation in the peacekeeping operation. MOIs provide units with information needed for preparation, deployment, and execution of their mission. Each MOI should contain information on these topics:

- Organization and equipment.
- Operations.
- Intelligence.
- Personnel.
- Logistics.
- Public affairs.
- Finance.
- Air operations.
- Nuclear, biological, and chemical (NBC) defense.
- Command relationships.
- Communications and electronics.
- Rules of engagement (ROE).

The threat level in the area of a peacekeeping operation is a major consideration when planning and executing the mission. The engineer commander (or senior engineer leader) must keep abreast of the current threat level in his unit’s area of operations. The threat may come from regular forces on either side of a dispute or from other parties who want the peace effort to fail. The threat depends on many factors, including the-
- Number of factions affecting the situation.
- Various ideologies involved.
- Sophistication of the belligerents’ weapons.
- Specific techniques of the disputing parties.

The threat level also depends on how impartial and effective the belligerents perceive the peacekeeping force to be. Threat information should be relayed up and down the chain of command. Often, the peacekeeper on the ground is in the best position to observe signs of change in the threat level. This information is passed up the chain of command for integration into the overall threat assessment.

Physical security measures protect the force and ensure that it can complete the mission. Security requirements for force protection vary depending on the threat level in the area of operations. Planning is based on current and projected capabilities of the disputing parties. Even in a seemingly benign environment, planners prepare force contingency plans and emergency plans. Countermeasures are developed for use against likely threat operations. Training is conducted to ensure an appropriate and swift response. Overall security measures are critical to a force constrained to set up and operate within a limited area for an indefinite period of time.

Personnel security is paramount in peacekeeping operations. Leaders must educate soldiers in threat tactics and recognition through a continuing awareness program. ROE are developed for each peacekeeping operation. They should be clearly and precisely stated in the mandate establishing the peacekeeping force. The ROE describe when peacekeepers may use force to resist attempts to prevent them from performing their duties. The right to use force in self-defense is never restricted. The chain of command must ensure that all echelons involved in the operation understand the ROE. Units that will take part in peacekeeping operations will establish training programs. As a minimum, training should include:

- Peacekeeping operations.
- ROE.
- Legal considerations.
- Medical threats.
- Field sanitation and hygiene.
- First aid.
- Map reading.
- Weapons and equipment identification.
- Mine identification and clearance procedures. (You may contact the US Army Engineer School Hotline for assistance (AUTOVON: 676–7324).)
- Operation of non-US construction equipment that may be present in the area of operations.
- Culture, language, habits, religion, and characteristics of the local people.
- Survival in the environment of the particular area.
- Special skills (for example, NBC defense, desert operations, and jungle operations).

If engineer soldiers will be integrated with other branches conducting peacekeeping operations, they should also be trained in patrolling, operating checkpoints and observation posts, and air assault operations. Engineer units should train on military operations on urbanized terrain (MOUT) techniques if urbanization is present in their area of operation.

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The size and type of engineer unit that a peacekeeping force requires to support a peacekeeping operation depend on several factors. These include the:

- Specific type of peacekeeping operation.
- Support responsibilities outlined in the terms of reference.
- Size of the force being supported.
- Duration of the operation (or rotation within an operation).
- Environmental considerations, such as the degree of urbanization or the presence of mine warfare.
- Degree to which the belligerents are maintaining peace.
- Existing facilities and services.
- Availability of contracted engineering support.

The terms of reference outline the specific missions of the US contingent to a peacekeeping force. In some multinational operations, another country may be tasked to provide engineer support to the force as a whole. In other cases, the US may be tasked to provide all engineer support for the operation. This type of support may include base development and maintenance. There may also be combat engineering missions that affect the whole force. Individual country contingents (to include the US) still require some internal engineer support to implement force-protection measures and to conduct possible combat engineering missions.

The size of a US force provided to a peacekeeping operation may range from several observers, through an infantry battalion reinforced with support assets, to an even larger force. The size and composition of the supporting engineer unit varies depending on the specific tasks it must perform. If the force moves into an area with no facilities, the requirement for construction engineering skills depends on several factors. These include whether facilities will be constructed by the US force, by another country, or by contract. If the peacekeeping force moves into existing facilities, the requirement for construction engineering skills depends on who will maintain the facilities. This could be US forces, another contingent’s engineers, or a contractor.

How the belligerents comply with cease-fire agreements affects the need for combat engineering skills. A relatively benign environment requires minimal combat engineering support. This is the case with the Multinational Force and Observers in the Sinai, where each US infantry battalion is supported by a reinforced engineer squad during its rotation. In more threatening environments (where all disputing parties are not complying with a cease-fire, for example), the need for combat engineering skills increases. In some cases, one or more belligerents may continue to conduct mining operations, for example, in contested areas or along peacekeeping–force patrol routes. They may emplace booby traps as defensive measures or to harass opponents or peacekeepers. The belligerents may conduct openly aggressive activities such as ambushes or raids. In any of these conditions, engineer soldiers may be required to conduct standard combat operations, possibly under fire. Due to the high-risk and high-stress nature of these operations, the number of combat engineers supporting the force should be increased.

Specific engineer missions will fall into one of two categories: sustainment engineering or combat engineering support.
SUSTAINMENT ENGINEERING

Sustainment engineering includes tasks that support the force through the construction and repair of billeting, support, and logistical facilities as well as lines of communication (LOC). These tasks may include the construction, maintenance, and operation of water, electrical, and sanitation utilities. Sustainment engineering also includes locating water sources and, if necessary, drilling wells for water supply. Engineer unit capabilities vary, depending on the specific type of unit. Planners must determine their specific engineering requirements. They can then request the appropriate types of units based on Field Manual (FM) 5–100 and Appendix C of this manual.

Sustainment engineering provides an adequate support base for the peacekeeping force. This base must provide living conditions that are secure, healthy, and as comfortable as possible for the peacekeeping force. It must also provide enough administrative and maintenance space for units supporting the force and for secure storage of all supplies and material. The support base’s size depends on the size of the peacekeeping force and its supporting elements. Specific requirements may also affect the base’s size. For example, if rations are delivered twice a week versus daily, ration storage facilities are designed accordingly. Water storage requirements are affected by the availability of potable water, the size of the force, and the local climate.

Command and control of engineer units involved in sustainment operations vary from one situation to another. Command relationships and control procedures must be established before beginning the operation. In cases where a small engineer contingent (such as a squad) is attached to a unit, it should be further attached to a subordinate headquarters. This subordinate unit will support the engineers and allocate their efforts to support the whole force. For example, an engineer squad supporting an infantry battalion may be attached to the headquarters company if the company commander is also the base-camp commandant. If a large engineer organization (company or larger) supports a force, the engineer commander should recommend command or support relationships to the force commander.

The peacekeeping-force commander and the engineer planner must establish parameters for base development. The threat level determines the defensive measures which will be taken to protect the peacekeeping unit. This affects the types of structures and construction techniques used by engineers in base development. An area designated as a base of operations may be protected by a range of means. A system of wire obstacles, antivehicular obstacles, and guards may be adequate in a low-threat environment. Bunkers, barricades, and continuous patrols may be required in high-threat areas. The expected length of peacekeeping operations impacts the construction techniques and standards used by the engineers. “Tent cities” may be used for a short-term operation. They will be set up with protective structures for personnel and essential facilities. A long-term peacekeeping operation may require more permanent facilities. In this situation, engineers attached to the peacekeeping force may continuously upgrade facilities if mission requirements and fiscal resources permit.

Logistical support may come from several sources, depending on the specific peacekeeping operation. Logistical support information is provided in the letter of instruction (LOI) published by the headquarters which is planning the peacekeeping operation. Primary logistic support comes from a military logistic-support unit controlled by the peacekeeping command. Civilian
contractors may also provide support. Major equipment items may accompany the deploying unit, or the peacekeeping unit may provide them in the area of operations.

Specific engineer sustainment missions include-

- **Base-camp construction.** Base camps are constructed for billeting the peacekeeping force and as a base of operations. The projected force size, including all support elements and related activities, must be considered when designing the camp. In some cases, personnel from other contingents in the peacekeeping force may be included in the planning figures. Possible changes in the camp’s population should be considered. Space for enlarging the camp to meet changing requirements should be provided, if possible. Planners must consider power requirements for the base camp. Tactical generators, a prime power plant and team, the host nation (HN), or a combination of these sources may provide power for the camp. Specific types of structures and physical-security considerations in the design are based on the parameters previously addressed. In some cases, the Army facilities components system (AFCS) may provide designs and bills of material (if the Operations length is less than 24 months). Camp construction may be conducted by engineer troops from the US or other nations or by contractors. US engineers, or those of other countries, may be responsible to oversee execution of a contract for construction.

- **Logistics-facilities construction.** Logistics facilities are constructed to support and sustain the peacekeeping force. The number and types of facilities vary considerably, depending on the supported force’s size and the support functions required. Facility types could include ration storage and issue structures, maintenance facilities, and medical-treatment structures. Bulk–petroleum retention walls; packaged petroleum, oils, and lubricants (POL) storage facilities; and ammunition storage structures may also be needed. Planners must consider power requirements when laying out these facilities. As with base camps, power may come from tactical generators, a prime power plant and team, the HN, or a combination of these sources. Facilities may support only US forces in a unilateral or multinational operation or several nations’ contingents in a multinational peacekeeping force. The degree of hardening and other security considerations in each facility’s design depends on several factors. These include its function, the sensitivity of its contents, the threat level, and how long it will be needed. As with the base camp, the facilities maybe constructed by engineer troops from the US or other nations or by contractors.

- **Lines of communication construction.** Depending on where peacekeeping operations occur, US forces may become involved in LOC construction. This situation may occur when peacekeeping forces are positioned between two belligerents in a remote or undeveloped area. The LOC structures, such as roads, bridges, and airfields, may serve several purposes. They may be required for movement of the peacekeeping forces within the area of operations. They may support transportation of equipment and supplies from their sources to base camps and observation posts. Again, the LOC structures maybe built by engineer troops from the US or other nations or by contractors.

- **Peacekeeping-specific construction.** Several other construction missions are essential for peacekeeping operations. The missions include construction of—
  - Observation posts and towers.
  - Checkpoints.
  - Roadblocks.
These facilities are designed and constructed to meet the same parameters as the base camp.

Observation posts, checkpoints, and so forth, must be clearly marked as peacekeeping-force structures. For example, when these facilities are constructed for a United Nations (UN) peacekeeping operation, the UN flag will be flown 24 hours a day and illuminated at night.

- **Potable-water-source development.** Water supplied to peacekeeping forces may come from several sources. It may be provided by Quartermaster water production and distribution personnel or a public water utility or it may be delivered by a contractor. If it is obtained from nonpotable local sources, engineer, quartermaster, and medical personnel have specific responsibilities for water supply. Engineers will locate subsurface water sources (if no surface water sources are available) and construct water wells, if required. (Note: US Army Corps of Engineers (USACE) can provide Water Detection Response Teams who specialize in this area (AUTOVON: 345–2534). These are multiagency teams designed to respond to a request within 24 hours to select well-drilling sites. They use the worldwide Water Resource Data Base, existing publications, maps, and remote sensing data.) Engineers also provide construction support for water-point improvement, if required. Quartermaster personnel select water-treatment and supply-point locations; install purification, storage, and distribution equipment; and treat and dispense water. Medical personnel inspect and approve water sources, define the degree of treatment required, and approve treated water.

- **Base and LOC maintenance.** This maintenance may be done by a contractor or by military engineer personnel. The terms of reference will outline responsibilities for these functions. Specific missions could include road maintenance and upgrade; culvert replacement; electrical, carpentry, masonry, and plumbing repair; dust control; waste disposal; and other related activities. Prime power teams may maintain power plants and distribution systems. Prime power teams may maintain power plants and distribution systems. When a contractor or engineers from another country are responsible for base maintenance, US engineers may still perform repair and utilities (R&U) activities on a case-by-case basis. This provides flexibility and responsiveness to the commander and training for the engineer soldiers.

**COMBAT ENGINEERING**

Combat engineering tasks (mobility, countermobility, and survivability) may be conducted by any US engineer unit while supporting peacekeeping operations. Commanders employing engineers should carefully consider the types of engineer units available and their levels of training before committing a specific unit to a mission. Some missions and environments may better suit one type of unit than another. For example, soldiers from an armored division’s engineer battalion may be best suited for a minefield-clearing mission (versus a minefield-marking mission) in an urban environment. These engineers may be better suited to conduct the mission than those from a combat heavy battalion or even a combat, corps battalion. However, the lack of a particular type of engineer unit should not prevent the completion of essential engineer tasks.
Command and control of engineer units conducting combat engineer operations depend on the situation. When engineers operate in a low–threat environment, such as training maneuver forces on wire-obstacle construction for force protection, centralized control (for example, general support) is appropriate. When they support a maneuver force in a high–threat environment, such as clearing a minefield or clearing an area of booby traps, a more restrictive command or support relationship, such as direct support or operational control, should be implemented. Chapter 4 of FM 5–100 contains general command and control principles.

Logistical-support channels for combat engineer operations are normally the same as those used in sustainment engineering operations. An exception may occur if an engineer unit is attached to a unit other than that which it normally supports in the peacekeeping force. Logistical support to accomplish engineering tasks will come from the tasking unit if the engineers are attached, operational control (OPCON), or in a direct support relationship to the tasking headquarters. If the engineer unit is in a general support role, logistical support for engineering tasks will come from the engineer unit’s parent headquarters. Combat engineer missions specifically related to peacekeeping operations include:

- Construction of command posts and bunkers.
- Construction of force-protection structures such as earth revetments, wire obstacles, and fighting positions.
- Clearance of fields of observation.
- Minefield clearing or marking, to include minefield-fence maintenance.
- Fortification demolition.
- Clearance of mines and debris from roads.
- Clearance of mines and booby traps from buildings, vehicles, and other locations.
- Backup support for explosive-ordnance identification, marking, removal, or demolition.
- Provision of technical expertise to maneuver forces.

Large numbers of antitank and antipersonnel mines may remain in an area when the parties of a dispute disengage. These mines are a hazard to civilians within the area and to the peacekeeping force. US engineer personnel may become directly involved in countermine operations, or they may train others in countermine procedures. Whether minefields are cleared or only marked depends on each situation—the potential threat to civilians and peacekeepers, the risk associated with clearing the particular minefield, and so forth. Engineers performing peacekeeping operations must know the mine-warfare techniques used by the armies that trained the factions in a dispute. The engineers must also learn “local” mine-warfare and booby-trap techniques. Methods of laying and camouflaging mines may vary depending on which side emplaced them. In many peacekeeping operations, a wide variety of mines will be present. Engineers must be trained to identify and clear mines manufactured by the principle arms producing nations.

A peacekeeping situation may deteriorate into an armed conflict between the peacekeeping force and one or more of the disputing parties. If this occurs, the peacekeeping–force commander will try to disengage his unit. If he fails to do this, the peacekeeping force may be involved in combat operations with regular or irregular forces. In these situations, engineer doctrine relating to combat operations is applicable. Engineer units should develop contingency plans and conduct training for this possibility.
Topographic engineer tasks supporting peacekeeping operations should be tailored to the force, mission, and area of operations. Tasks may include survey, cartography, terrain analysis, and terrain information reproduction.

Specific tasks may include:

- Tactical and civil mobility studies.
- Facility site analysis.
- Communication site surveys.
- Water location.
- LOC planning.
- Weapons emplacement siting.
- Special purpose topographic products to support peacekeeping plans and operations.

Special topographic engineer units can be employed for specific needs. The units may work independently, as part of a US tactical force, or with national, civil, or military forces. FM 5–105 provides the principal doctrine for topographic operations.