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ENGINEER COMMAND 1966–1974

The Engineer Command owed its origin to the determination of the commander in chief of the United States Army, Europe (USAREUR), General Andrew P. O'Meara. When O'Meara assumed command in March 1965, he brought a wealth of experience in postwar Germany to his new assignment. From 1948 to 1951 he had served as chief of logistics planning at the European Command's headquarters in Heidelberg; and in 1957, as commander of the 4th Armored Division, he had moved the unit from Fort Hood, Texas, to Germany, where he remained for a two-year tour of duty. O'Meara had developed strong opinions about what the Army engineers ought to be doing for USAREUR.

Soon after arriving in Heidelberg in 1965, O'Meara inquired about a project he had launched while commanding the 4th Armored Division: moving the rear elements of the division into the Nuremberg area. O'Meara learned that his plan had been approved in 1960, but the relocation had become stalled in negotiations for the Alternate Construction Program. Incensed by the lack of progress, O'Meara asked the USAREUR engineer, Brig. Gen. Howard A. Morris, for an explanation. Morris said that the district commanders were responsible for the delays; the district commanders put the blame elsewhere. O'Meara's review of other engineer activities fueled his anger. Garrisons targeted for renovation during his tour in the logistics division fifteen years earlier had not been finished. USAREUR's construction battalions had poor discipline and inadequate supervision. And O'Meara did not think that the labor service units of skilled German and Baltic craftsmen were being used appropriately. O'Meara dubbed the situation "a stinking engineering mess" and demanded accountability.[1]

While O'Meara questioned the deployment of engineer resources within USAREUR, his control of these assets was being challenged in Washington. Early in 1965 the Department of the Army asked the Office of the Chief of Engineers (OCE) to study the organization of military

construction in Europe, the only Army command where contract construction was not managed by the OCE. The OCE study concluded that contract construction currently assigned to USAREUR ought to be assumed by the Corps of Engineers and managed by the Mediterranean Division through a district office in Frankfurt. When these recommendations were announced in May 1965, O'Meara immediately dissented.[2]

General Young in 1970

O'Meara insisted that control of all engineer resources remain directly under his authority as USAREUR commander. The Department of the Army asked the Army Audit Agency (AAA) to review the OCE study and to present independent recommendations. The audit, completed in October 1965, concurred with the OCE analysis. Among the staff of the Engineer Element, rumors began to circulate of "a power struggle for us between USAREUR and the chief's office."[3]

Despite the consensus between the OCE and the AAA, O'Meara resisted. He wanted to consolidate all engineer personnel and resources directly under the USAREUR commander. Months before O'Meara assumed command, USAREUR had consolidated its logistical support facilities in Germany, creating a single logistical command to provide area support to all Army forces in Germany except those in Berlin and Bremerhaven. The new Army Area Command, headed by a West Point classmate of O'Meara's, Maj. Gen. Tom R. Stoughton, managed all stocks and logistical activities as well as installation support throughout Germany. Stoughton strongly opposed O'Meara's proposal to create a competing engineer command, as did most of O'Meara's general staff, including the USAREUR engineer, General Morris. O'Meara realized that he needed to go outside his own staff to get another assessment of his idea. A personal friend and engineer officer, Earl Peacock, recommended Col. Robert P. "Rip" Young, commander of the 7th Engineer Brigade. In July 1966 O'Meara wrote Young—whom he had never met—instructing him to study the feasibility of organizing all the engineer elements in Europe into an engineer command.[4]

Colonel Young had arrived in Frankfurt in September 1964 for his first tour in Europe. A 1942 graduate of the U.S. Military Academy, Young had served with an airborne engineer battalion in World War II, commanded an engineer battalion in Korea, and served as district engineer in the

Seattle District of the Corps of Engineers. Assigned as V Corps engineer in 1964, Young was moved within weeks to deputy chief of staff of V Corps. In July 1966 Young had begun an assignment as commander of the 7th Engineer Brigade. O'Meara's letter arrived almost immediately.[5]

Concerned about the task given to him directly by O'Meara, Young discussed the situation with Brig. Gen. Craig Cannon, Morris' successor as USAREUR engineer. He quickly learned that O'Meara's idea was unpopular with the staff in Heidelberg and opposed by the area commanders. Nevertheless, Young began with the assumption that a feasible plan could be devised.

At the first briefing to discuss the feasibility of reorganization, the USAREUR staff was hostile, but O'Meara told Young to formulate an implementation plan. General Stoughton objected that the engineers could not supervise services such as snow clearing, packing and crating furniture, or other tasks that his Army Area Command provided to support U.S. military installations throughout Germany. General O'Meara agreed to leave the engineer positions assigned for facilities maintenance with the Army Area Command. When Young presented the implementation plan, O'Meara announced that the new command would be implemented as outlined and that Colonel Young would head it.[6]

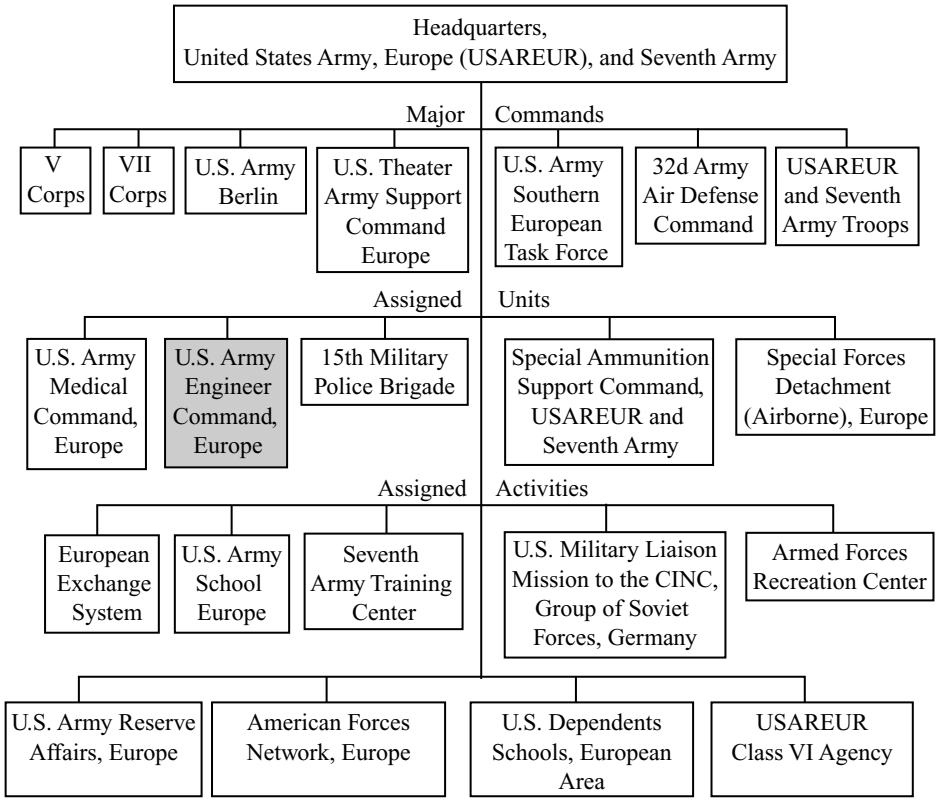
In a brief ceremony on 1 November 1966, USAREUR activated the Engineer Command (ENGCOM). In the first phase of the implementation, ENGCOM merged the Engineer Element (contract construction and real estate) and the 7th Engineer Brigade (engineer troops and 6970th Labor Service/Civilian Labor Group [LS/CLG]). Young set up offices in the building in Frankfurt that had been used by the Engineer Element and its predecessor, the United States Army Construction Agency, Germany (USACAG). He moved headquarters of the 7th Engineer Brigade from Karlsruhe to Frankfurt. The second phase of ENGCOM's consolidation entailed the transfer of the repairs and utilities mission from the Army Area Command to ENGCOM.

Beginning in May 1967, for the first and only time, the Army's major engineer resources—contract construction, troop construction, and facilities engineering—operated under one headquarters as a subordinate command of USAREUR rather than as an element of the general staff office in charge of logistics (G–4). The reorganization preserved a unique aspect of the authority of the commander in chief, USAREUR; only in Europe did the theater commander control engineer resources directly. (*See Chart 8.*) In all other major Army commands, the OCE in Washington managed contract construction for the Army and Air Force. O'Meara had achieved what he wanted.[7]

Structure and Organization

In the face of overt opposition in the Heidelberg headquarters, Young's task of pulling the various components together into one organization was not easy: "It was," he recalled, "a tug of war all the way."[8] The contract construction mission that ENGCOM took over from

Chart 8: Organization of Headquarters, U.S. Army, Europe, and 7th Army, 1969

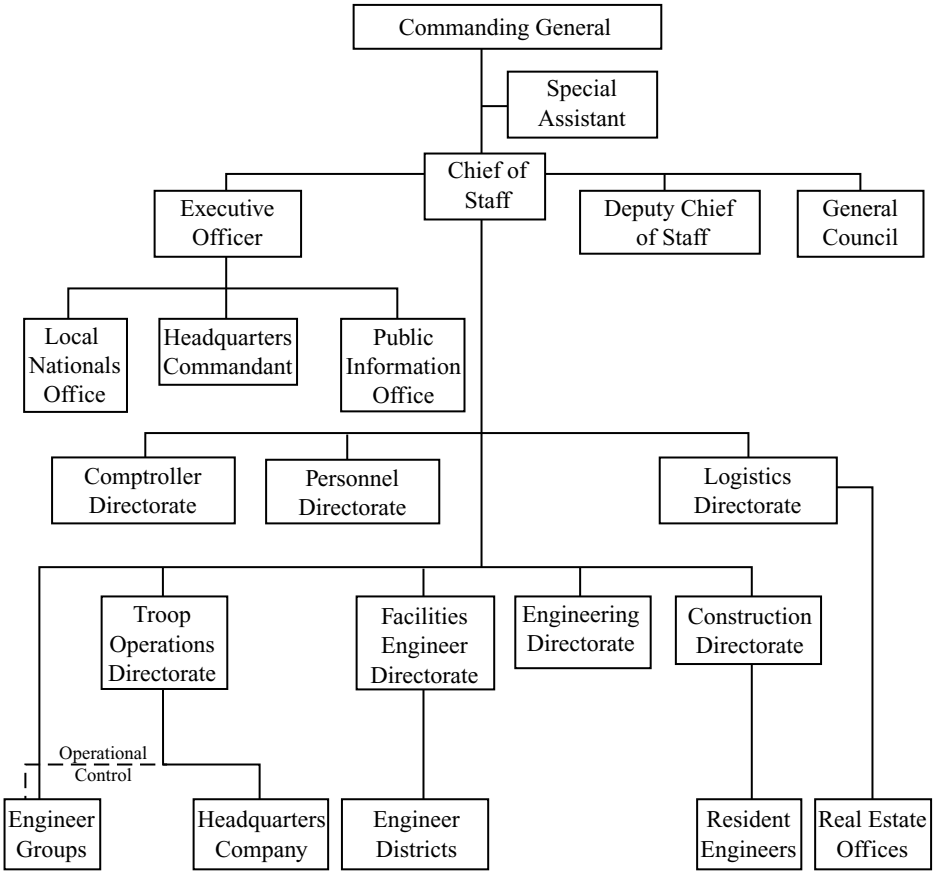


USACAG and the Engineer Element encompassed the execution of dollar-funded construction for U.S. military forces in Europe; the supervision and inspection of North Atlantic Treaty Organization (NATO) construction undertaken for U.S. forces and of alternate construction provided by the Federal Republic; and the management of related real estate functions.

ENGCOM also inherited from the 7th Engineer Brigade three missions associated with engineer troops: execution of construction for the Army and the Air Force using troop labor, maintenance of combat readiness among the engineer troops, and readiness to execute contingency and war plans. Throughout USAREUR (excluding Bremerhaven and Berlin), ENGCOM's mission to support installations—facilities engineering—covered the complex and essential tasks of maintenance, repairs, and provision of utilities. All elements of ENGCOM shared responsibility for furnishing professional and technical engineering services to the commander in chief, USAREUR.[9]

Young organized ENGCOM headquarters in Frankfurt with an Executive Command Section and seven directorates: Engineering,

Chart 9: Organization of U.S. Army Engineer Command, Europe, 1970



Construction, Operations, Facilities, Personnel, Logistics, and Comptroller. (*Chart 9*) The Operations Directorate coordinated military activities other than construction, and the Facilities Directorate managed the repair and utilities mission. The Logistics Directorate supported both troop units and the repair and utilities needs of the engineers serving military facilities (district engineers) and supervised the operations of the real estate offices.[10] ENGCOM maintained five offices in West Germany to supervise the acquisition, disposal, and management of real estate for USAREUR.[11]

Resident engineers, operating out of ten (early 1967) and then nine (summer 1968) localities, executed the contract construction function. Eleven district engineers carried out the repair and utilities mission (*see Map 11*), supervising thirty-nine community engineers (also called post engineers, although posts had been replaced by military communities in USAREUR) and forty-five subcommunity engineers.[12]

Map 11

Military, Civilian, and German Personnel

During 1967 and 1968 some 700 to 800 people worked at ENGCOM headquarters, in district and resident engineer offices, and in real estate functions. With nearly 7,000 soldiers and 14,000 civilians working on-site

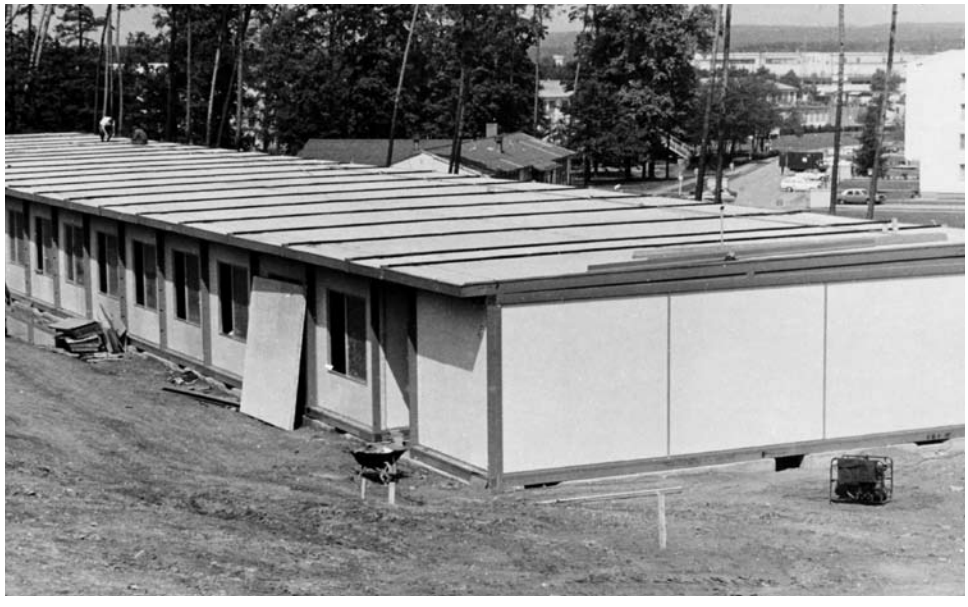
at the installations, the Engineer Command had an overall force of about 21,000.[13]

Personnel for the command consisted of military officers, Department of the Army civilians (DACs), and German nationals. In general, Army engineer officers headed major divisions in headquarters and in the field offices. Young named Col. A. Darby Williams, Jr., commander of the Engineer Element since the autumn of 1964, as chief of contract construction and deputy commander.[14] A second colonel served as deputy commander and chief of troop operations with responsibility for the 24th Engineer Group (Construction) and the 6970th LS/CLG. In August 1967 a third colonel assumed office as deputy commander and chief of facilities engineering. ENGCOM consistently had problems finding qualified officers to serve as engineers at the community level. The job called for officers with the experience commensurate with the rank of an engineer major; but competing demands, especially the war in Southeast Asia, left only lieutenants available for most assignments.[15]

Civilians who had served with USACAG and the Engineer Element provided both leadership and continuity in ENGCOM headquarters. John Tambornino became chief of engineering, and H. Jace Greene remained as chief of construction. William E. Camblor, former director of USACAG, returned to Frankfurt to serve as special assistant to the commander. Leonard L. Phillips, legal counsel in USACAG since 1960, became general counsel. Saul Fraint served as chief of technical engineering, and John Haugen continued as chief of planning. Adolph Faust, who had come to USACAG after working for the Army engineers in Austria and with USAREUR's Northern Area Office, was named chief of civil engineering; he later worked as chief of structural engineering. Louis Brettschneider remained as chief of mechanical engineering (a section under USACAG but now a branch) and, when Fraint retired in June 1973, succeeded him as chief of technical engineering.[16] When offices in France closed in 1966 and 1967, Jacques Bouchereau, a naturalized American citizen from Haiti who had worked with the Joint Construction Agency and its successors in France, joined ENGCOM's Engineering Division, as did John Shadday, a former Army engineer officer.[17]

Other experienced civilians came into the organization when ENGCOM assumed responsibility for facilities engineering. Randolph S. Washington, a budget analyst, transferred from the Army Area Command in 1967; he later served as deputy and supervisor of the Budget Office. Edward Zawisza, who had worked for the Joint Construction Agency, for the facilities engineer in Stuttgart, and with the Army Area Command, joined ENGCOM as deputy chief of facilities engineering. Robert Rodehaver first became chief of operation and maintenance programming in the new Facilities Directorate and then in 1972 was promoted to chief of buildings and grounds.[18]

Despite the continuity in leadership that these men provided, American civilians made up less than 3 percent of ENGCOM's workforce and the command remained short of qualified engineers in mid-level



The 6970th Labor Service/Civilian Labor Group built this school in Heidelberg in 1967.

positions.[19] Germans and third-country nationals held more than 90 percent of the civilian positions as estimators, typists, translators, engineers, legal aides, and contract administrators. During the late 1960s and early 1970s, ENGCOM had difficulty attracting Germans with professional qualifications: Unemployment was low in the Federal Republic, and the salaries offered by the Army were about one-third less than comparable jobs in the West German economy. Although retaining qualified Germans was even harder than recruiting them, some, including Hasso Damm, who had joined USACAG in 1956, continued under ENGCOM.[20]

Engineer Troops

The Engineer Command included the 24th and 39th Engineer Groups (Construction) and the 6970th LS/CLG.[21] Engineer troops in the 24th and 39th were assigned to heavy construction, including earthmoving, rehabilitation, and road building. The command also used troops for crash programs such as constructing forty school classrooms, work that involved preparing foundations, laying concrete, setting up Quonset huts, and installing wiring.[22]

ENGCOM gained a unique resource in the 6970th LS/CLG. Each of its six companies maintained a roster of about 150 men. Three companies—civilian labor groups—were composed of Germans; the other three—labor service—included displaced persons from East European nations,

especially the Baltic states that had been absorbed into the Soviet Union. A headquarters company of about 200 men managed this organization under the 7th Engineer Brigade. Members of the labor service units wore uniforms and were commanded by officers from their own ranks who were experienced in planning and executing construction projects.[23]

The U.S. Army of occupation created labor service units in early 1947 to augment its engineer units, and over the next twenty years the Army developed contractual relations with the groups. The labor service personnel in the 6970th LS/CLG served an average of ten years and maintained a high level of proficiency in crafts crucial to construction—carpentry, masonry, electrical wiring, heating, plumbing, and welding.

The standard workweek for the labor service personnel was forty-three hours on construction plus additional hours in training and improving skills. In 1950 the labor service men adopted the elephant as their emblem to symbolize strength and endurance; their nickname became *Dickhäuter*, "thick-skinned."[24] For their tremendous morale, pride, dedication, and discipline, as well as consummate skill, they won the praise of the Americans who worked with them.[25]

The ENGCOM structure permitted the labor service and civilian labor groups to be employed quickly and effectively to support contract construction, as they had previously supported troop construction. Furthermore, troop units and the labor service units could be assigned to a project together, with troops doing the initial site preparation and roughing in a structure and the labor service troops finishing the project.[26]

Facilities Engineers

Before the creation of the Engineer Command, district engineers, working under the eleven commanders of military districts in West Germany, provided support for the military installations used by the U.S. Army and Air Force. The district commanders in turn had reported to the Army Area Command in Munich, whose deputy chief of staff for installations had supervised all activities connected with facilities engineering. After 1966–1967, district engineers reported to the director of facilities at ENGCOM headquarters and came under the immediate authority of the ENGCOM commander, who endorsed their efficiency reports.[27] The engineers liked the centralization of resources in the Engineer Command because it allowed them to establish uniform criteria for ranking projects across USAREUR. Moreover, the weight of ENGCOM's authority made the resources needed to accomplish an approved task more readily available to the district engineer.

The Engineer Command set rationalization and standardization as its goals. At its recommendation, USAREUR approved a plan for establishing priorities among competing demands for work on repair and utilities projects. Facilities and activities were divided into four categories—operational, tactical, recreational, and administrative—and assigned priority to the

first two categories. It then set six levels of urgency within each category, which helped district engineers prepare annual work plans with some uniform benchmarks. ENGCOM also set standards for materials used in repair and replacement, whether the work was done by contract, in-house personnel, or engineer troops.[28]

ENGCOM's efforts to centralize decision making and to standardize criteria were similar to the attempt launched in the late 1940s by EUCOM's chief engineer, Brig. Gen. Don G. Shingler, to centralize planning for maintenance and repair throughout the his command. Like Shingler, ENGCOM organized mobile technical teams that included electrical, mechanical, and civil engineers. Teams in both periods traveled to districts to offer assistance at the local level.[29]

The structure of the Engineer Command allowed its leaders to manage the limited resources available to USAREUR during the 1960s and early 1970s. The command combined engineer troops, contract authority, and facilities engineers, thus bringing to military communities in Europe a range of assets that facilitated effective organization, comprehensive planning, and standardization. The combination made possible more effective delivery of engineer services with fewer people and at lower cost than in the past.[30]

The Changing Environment in Europe

As Colonel Young worked to establish the Engineer Command, USAREUR wrestled with two major developments that conditioned its operations. The first was dramatic and relatively short-lived: France's decision to leave NATO. The second was the growing American involvement in Southeast Asia and pressures from within the United States to reduce the financial drain of a large troop commitment in Europe. This development proved to be more consequential and had longer-lasting effects.

FRELOC Mission

In March 1966 French President Charles de Gaulle withdrew all French military forces from NATO and stipulated that any foreign forces remaining on French soil on 1 April 1967 would come under French military authority and command. Faced with subordination to French military authority, the United States and other NATO members decided to relocate their military units from France. The U.S. removal bore the name Operation FRELOC, for Fast RELOCation.

A major element in the relocation was how to allocate management of USAREUR's stocks and logistical activities, all of which were being concentrated in West Germany. The Communication Zone (COMZ) in France had handled all logistical and area support for U.S. forces; USAREUR concluded that it should absorb the Army Area Command, which handled similar functions in Germany from its headquarters in Munich. On 1 July 1967, COMZ headquarters moved from Orleans, France, to Worms, West

Army engineers built depots like this one in Hanau to store equipment arriving in Germany as U.S. troops moved out of France.

Germany, and took over the responsibilities of the Army Area Command. Exactly one year later, with no change of mission, COMZ was redesignated the Theater Army Support Command (TASCOM).[31]

The redeployment of American personnel and resources from France in FRELOC involved moving about 30,000 troops and 40,000 civilians from nearly 200 military installations. Both the Army and the Air Force required new or expanded facilities to accommodate the units and the equipment that would be transferred, principally to Belgium and West Germany.[32] In preparation for constructing new facilities, ENGCOM dispatched staff members to France. The deputy chief of construction, Jacques Bouchereau, traveled with cost estimator Hasso Damm to see the buildings that would be vacated and to estimate the size and probable cost of replacement facilities.[33]

One especially tedious project that fell to ENGCOM involved taking inventory, segregating, packaging, and storing pieces of prefabricated buildings that had been dismantled and removed from locations in France. Command leaders protested that the costs involved would exceed the value of the materials salvaged, but the order remained in effect. The first assessment undertaken addressed 302 prefabricated ammunition storage huts shipped to Karlsruhe. As ENGCOM personnel predicted, the cost of the work was twice the value of the materials saved. Similar work indicated that parts from several types of buildings had been mixed together when they were disassembled and shipped.[34]

Initially, USAREUR assigned ENGCOM sixteen construction projects funded at $18.6 million under the program for Military Construction, Army. This included $5 million to provide 873,000 square feet of storage and other support facilities in Germany. To accommodate the supplies and ammunition stored along the line of communications in France, the command expanded depot facilities, including controlled-humidity storage warehouses in Germersheim, Nahbollenbach, and Pirmasens. Design and construction also proceeded on new command facilities in Stuttgart to accommodate the headquarters staff of the United States European Command (USEUCOM) and in Worms for COMZ.

The relocation of NATO's Supreme Headquarters Allied Powers, Europe (SHAPE), to Brussels generated a number of construction projects, including a house for the supreme allied commander, General Lyman L. Lemnitzer; a headquarters building; and a school complex for the children of U.S. military and civilian employees. The Belgians, eager to accommodate the incoming military staffs and families, worked to make it possible to open the school for the 1967–1968 academic year.

ENGCOM assigned Bouchereau, deputy chief of construction and responsible for estimating, as project engineer for the school in Belgium because of his experience in both engineering and construction and his fluency in French. To speed decisions, the Department of Defense sent the assistant secretary for construction, Evan Harrington, to Frankfurt, where Fraint and his staff rushed to draft design specifications and preliminary floor plans. Harrington approved the basic design on the spot, and Bouchereau delivered the plans to the Belgian government, which contracted with an architect-engineer firm to adapt the design to the site. With the help of a Belgian realtor, Bouchereau located an appropriate site—an apple orchard outside the small community of Sterrebeek, five miles from the center of Brussels—and then negotiated for and bought the property on behalf of the U.S. government.

Clearing began on the site before the Belgian government realized that Bouchereau had acquired title to the land in fee simple; that is, the property owner had surrendered absolute possession of the fourteen acres. Individuals do not exercise sovereignty over their property, but a country does; thus sovereignty over this property passed with the title to the United States. It was an oversight the Belgians would not repeat. In the government-to-government agreements negotiated in 1968, the Belgian government insisted on a clause specifying that all land used by the United States for its military forces remain the property of Belgium. As late as 1992 the acreage on which the American school sat in Sterrebeek remained the only piece of land in Europe that belonged in full title as sovereign territory to the United States.

Bouchereau headed the ENGCOM resident office set up in Brussels to oversee projects in Belgium, including the school complex and a dental clinic to be built at the same site. The school complex had to be made completely self-sufficient, with a heating plant, transformer station, water chlorinating station, and sewage plant. The school complex consisted of

a two-story elementary school; a high school building; a gymnasium; a sports field; and a one-story structure combining administrative offices, cafeteria, library, kitchen, and shops. The final design for the school was completed in two months. A Dutch company, Strabed, began construction in July 1967 and used 55,000 square feet of prefabricated reinforced concrete panels to hold construction costs to $1.6 million. The school opened in October.[35]

New construction for the relocation also involved creating a headquarters facility for the U.S. European Command, which since 1954 had been located in France with SHAPE. When SHAPE moved to Belgium, USEUCOM moved to Stuttgart and the Seventh Army headquarters moved to Heidelberg to share space with USAREUR. ENGCOM also managed the construction of the command center for USEUCOM at Patch Barracks in Stuttgart.

The command and control center—informally referred to as C^2 (C-squared)—was a three-story building with wings to the east and to the west constructed with a welded steel frame and reinforced concrete. For reasons of physical and electronic security, the main building, 54,370 square feet of floor space, had only one window. The electronic equipment needed for intelligence work and to exercise command and control was housed on the first floor and shielded to prevent hostile monitoring of electromagnetic signals. The main building also featured a two-story situation room with a command balcony and an eight-screen projection wall furnished with the most sophisticated audiovisual equipment available. The west wing contained the computers that processed intelligence information. The east wing contained the support systems. Pneumatic tubes connected all the stations within the building and other sites in the headquarters complex. To accommodate heavy demand for electronic support, the facility was equipped with two backup diesel generators.[36]

Design for the C^2 project began in November 1966; ground was broken on 10 May 1967; and by 13 October ENGCOM and USEUCOM celebrated the "roofing-in" of the building with a *Richtfest*, the old German construction ceremony. The C^2 *Richtfest* honored the construction crews, which included men from seven nations, and the engineers, all of whom had worked sixty-hour weeks to enclose the structure before winter. The workers installed the heating plant ahead of schedule, so work continued uninterrupted throughout the winter. John Shadday oversaw the project for ENGCOM. USEUCOM's liaison officer for the project was an infantry colonel who insisted that the military users make prompt decisions and drove them by threatening to make the decisions for them if they delayed. The center became operational in July 1968, eliciting commendations for ENGCOM for rapid completion of the project.[37]

On 31 March 1967, eight hours before de Gaulle's deadline, U.S. forces completed the evacuation of personnel and materiel from France. With the approval of the French, a small residual force remained behind to complete the liquidation of U.S. assets and to support U.S. dependents authorized to remain until the end of the school year or until completion

of facilities in Belgium. By the end of 1967 the U.S. Army had closed all installations in France except facilities associated with the oil pipeline. Under agreements negotiated in April 1967, the pipeline remained available for both American and French use. Civilian contractors operated the facility, and the French government provided security. The United States retained the right to inspect the pipeline, accompanied by French officials, four times a year.[38]

The work that resulted from the movement of U.S. forces was not over once the troops were relocated. Nor was all of it as satisfying as the American school in Belgium or the command and control center for USEUCOM in Stuttgart. Still, Colonel Young was proud of his command's efforts. "We really did a great job.… Because we had put everybody, all the engineers, under one commander … we could move fast and effectively in using resources."[39]

Rethinking the Commitment to Europe

While ENGCOM struggled to integrate the various engineer resources into an effective command and responded to the challenges of FRELOC, political pressures in the United States mounted that would influence Army engineer activities for many years. Since the beginning of the 1960s the United States carried a balance-of-payments deficit with the Federal Republic of Germany, prompting a growing American political sentiment that the Germans ought to bear a greater share of the financial burden for their own defense. Senator Mike Mansfield (D-Montana) advanced this argument in August 1966 when he first introduced his Sense of the Senate Resolution calling for a reduction in U.S. forces in Germany. For the next several years the call to remove U.S. troops from Germany sounded annually in the Senate, intensified by the increasing burden of the conflict in Vietnam. These pressures led the Department of Defense to withdraw about 35,000 U.S. troops and 28,000 dependents from Germany between late 1967 and the end of 1968. The West German government, although nervous about the troop withdrawals, acquiesced.[40]

Concerned that the withdrawals not send a message of weakness or lack of resolve to either the Europeans or the Soviets, the Department of Defense devised a strategy called dual basing. Under this arrangement troops stationed in the United States would be airlifted each year for training in West Germany with NATO army groups. The REFORGER (REturn of FORces to GERmany) exercises were designed both to enhance the military capabilities of the U.S. and allied forces and to reassure the NATO participants of the firm U.S. commitment to the alliance.[41]

While the withdrawals took place and U.S. defense planners initiated REFORGER, the West German government accepted an arrangement to help offset the costs of the U.S. military presence in Germany by buying $500 million in medium-term treasury certificates. The arrangements to fund modernization of facilities used by the U.S. military represented one

additional effort in a long line of offset agreements. Undertaken by the West German government, these arrangements became a recurring part of USAREUR's operations and provided substantial Deutschmark (DM) funds for military construction during the 1970s. (*See below in this chapter, as well as Chapter 11.*)

Workload and Funding

ENGCOM applied the combined resources of troop construction, contract construction, and facilities engineering to manage work under the NATO Common Infrastructure Program, a full array of military construction for the Army on projects ranging from airfields to schools to washracks, and work under the Alternate Construction Program.

In summer 1968 ENGCOM had more than 400 active projects with an estimated value of $198 million under contract in various stages of design and construction. Forty contracts were for Air Force projects and seven for NATO infrastructure projects; twenty contracts represented facilities under the Alternate Construction Program with funds provided by the Federal Republic of Germany.[42] Army construction occupied the largest percentage of ENGCOM's efforts, a total of ninety-two projects with an estimated value of over $20 million.[43] (*See Table 3.*)

Troop construction under ENGCOM accounted for 196 projects that had a value of only $5.7 million. This did not include the operation and maintenance work performed by troops in support of the district and community (post) engineers. Although the dollar value of this work was low, the involvement of troops in construction gave the command flexibility in carrying out its mission.[44]

Dozens of ENGCOM construction projects qualified for funding under the NATO Common Infrastructure Program. These projects included some of the facilities built in Belgium to accommodate the move of NATO headquarters from France; many of the Hawk missile sites built in the 1960s and 1970s; aircraft shelters; and facilities for U.S. forces assigned to NATO in Germany, Italy, Greece, and Turkey.[45]

During the 1950s the United States had willingly advanced the money for the construction of military facilities rather than waiting for NATO budgetary approval. In the 1960s the practice of prefinancing declined, because of U.S. concern about gold outflow and the financial demands of the Vietnam War. The U.S. government wanted NATO to finance infrastructure projects from the start, but the NATO funding process involved long and very complicated negotiations to get the unanimous approval of the NATO member states required for each project.

In 1969 ENGCOM established a branch in the Office of the Comptroller to recover funds from NATO for projects that had been prefinanced with U.S. dollars. Headed by an American civilian, the NATO Recoupment Branch initially included three German civilians, although this number grew as the volume of work increased. The work of this group was enormously complicated by a fire in November 1968 when papers were

Table 3

Military Construction for the Army
June 1968

Project Type	Number
Operational facilities	10
Commercial facilities	31
Maintenance	1
Storage	15
Airfields (Army)	9
Administrative and community	26
Total	92

Source: "Briefing for LTG Cassidy," 17 June 1968.

charred, damaged by water, or lost entirely. The recoupment staff had to develop regulations, policies, and procedures to govern its work. They also had to pay painstaking attention to detail and complete numerous NATO forms. It took years before the staff's efforts led to the recovery of significant amounts of money.[46]

ENGCOM also discharged the task of developing and negotiating all the alternate construction agreements for USAREUR. Once Germany and the United States signed an agreement, ENGCOM provided the German construction agency, the *Bautechnische Arbeitsgruppe* (Technical Construction Working Group), with a scope of work on which to base design and construction. Lower-echelon offices such as the *Landesabteilung* (State Construction Division) or the *Finanzbauamt* (Office of Finance for Construction) eventually produced preliminary designs for review by ENGCOM's Engineering Directorate, a construction contract, and a finished project. The process involved two parallel operations: a contract between ENGCOM and the *Bautechnische Arbeitsgruppe* and then contracts between the *Finanzbauamt* and an architect-engineer firm (for design) and a contractor (for construction). The process demanded significant staff time.[47]

All of ENGCOM's programs involved real estate. To monitor this dimension of the projects, the command maintained a Real Estate Division with regional offices covering Germany, France, Italy (excluding Naples and Sicily), and the Benelux countries. After the relocation of U.S. forces from France, responsibilities there consisted only of leases with private French contractors to manage and operate the petroleum pipeline that the United States had built across France.[48]

Securing real estate became an ever more difficult task. West Germany's booming economy, the presence of armed forces from several nations, and a growing environmental sensitivity all created pressures on

land use. During the early 1970s continued talk in the U.S. Senate about reducing forces in Europe, as well as meetings of the major powers to discuss detente in international politics, also made it difficult for many Germans to understand why the Americans needed more land.[49] By 1973 the Real Estate Division was hampered by having German employees in positions where a familiarity with U.S. policies, procedures, and concepts constituted major criteria for the work. ENGCOM lacked the funds to discharge its real estate mission. Indeed, it faced a budget gap for fiscal year 1974 of $115,000 just to cover the salaries of existing staff.[50]

Projects

The pressures created by Operation FRELOC strained the Engineer Command's capabilities; but the elements drawn into the new command worked effectively together, and Young won the confidence of the employees. General O'Meara, who left USAREUR in March 1967, pressed to have Young promoted to brigadier general, intending that he remain as ENGCOM commander.[51] Young's name appeared on the promotion list, but he did not remain in Europe. The chief of engineers, Lt. Gen. Frederick J. Clarke, selected him to organize the new Huntsville Division of the Corps of Engineers, which was to design and construct the Sentinel/Safeguard ballistic missile systems. Young was promoted to brigadier general in September 1967 and left Europe the next month.[52]

Young's successor as commander, Kenneth W. Kennedy, was also on the August 1967 promotion list, but he arrived in Germany on October 17 as a colonel. Kennedy had served two tours in repairs and utilities positions; ENGCOM was his first assignment in Central Europe. Kennedy's promotion to brigadier general came in March 1968.[53]

General Kennedy (right) with Chief of Engineers Lt. Gen. William F. Cassidy in June 1968

The Boiler Conversion Program

Upon assuming command, Colonel Kennedy immediately received directions to give high priority to a specific problem. On his first day in Germany, he received a message from General James H. Polk, O'Meara's successor as commander in chief of USAREUR, instructing him

to make a special effort to improve troop facilities. Ten days later the USAREUR engineer, Brig. Gen. Roy S. Kelley, wrote Kennedy about the heating systems in the barracks. An attachment to Kelley's letter bore the typed message, "It can be expected that the commander in chief will verify completion status during field trips throughout the command." To that Kelley added the handwritten note, "*Strong* CINC [commander in chief] interest!"[54] The need to modernize heating equipment in American facilities in Europe was the first of several major maintenance problems that Kennedy faced.

Most of the buildings used by U.S. troops since the occupation had been built for the German Army before World War II; many of them dated back to the turn of the century. Heating equipment in the facilities dated from the 1930s. By the 1960s the cast-iron boiler design typical of these systems was antiquated, and repairs were difficult and expensive. Although the boilers were designed to burn Ruhr coal, by the early 1960s they were all fired with anthracite coal imported from the United States, which had different mineral properties. Political pressures from the American coal lobby and economic pressures over the outflow of gold reserves from the U.S. Treasury combined to persuade President John F. Kennedy to order the U.S. Army to use American coal in Europe. Kennedy's presidential order added about $1 million a year to USAREUR's maintenance budget and, because the anthracite coal—owing to its properties—burned poorly in the German boilers, further decreased the efficiency of the existing heating systems. Because USAREUR consistently received inadequate money for routine maintenance, the equipment continued to deteriorate. In 1964 the Engineer Element had proposed converting to oil-burning furnaces throughout Germany. The Department of the Army rejected the proposal but suggested that USAREUR submit requests to convert individual heating plants.[55]

In addition to the boilers, the military in Europe also used hundreds of single-room coal-fired space heaters to warm troop billets, latrines, mess halls, and work areas. In September 1964 USAREUR authorized a "repair by replacement" plan to systematically eliminate all space heaters over a five-year period. In March 1967 General O'Meara declared that he wanted the job completed before the next winter. In addition to being inefficient, the space heaters were a major cause of fires in European buildings.[56]

Kenneth Kennedy inherited a replacement plan for space heaters but had no comparable plan for replacing the central heating boilers. In fact, ENGCOM did not even have an accurate count of how many boilers the military operated. Kennedy therefore ordered an inventory of almost 800 U.S. installations and learned that the military operated some 10,000 low-pressure boilers of various capacities. The equipment included forty-four different German makes and models, 90 percent of them outmoded.[57] With this new information, ENGCOM launched a plan early in 1968 to modernize all heating equipment used in USAREUR installations. The

command centralized approval of boiler replacement and used salvage stock on hand, including oil-fired boilers recovered from France during FRELOC to replace worn-out coal-burning boilers in Germany.[58]

Coal-fired boilers, like this one at Warner Barracks in Bamberg, were prevalent in the 1960s and 1970s.

Coal-fired boilers had the additional disadvantage of being labor-intensive in a scarce labor market. Because coal-fired boilers needed to be stoked, they required 60 percent more hours of labor than oil-fired boilers. The ENGCOM roster listed 5,000 boiler-firemen, jobs filled primarily by Germans. The older German firemen who had worked since the 1940s were retiring by the late 1960s, and few younger men wanted the backbreaking job. Budgetary pressures persuaded Kennedy to mandate that the number of Germans on his payroll be reduced by 20 percent. To achieve the reduction and still keep the boilers heated, Kennedy persuaded Polk in September 1968 to allow the use of troops to fuel the boiler fires.[59]

ENGCOM personnel were not surprised when inexperienced troops damaged the antiquated boilers. Once damaged, a coal-burning boiler automatically became eligible for replacement with an oil-burning boiler. Replacing the old German boilers with steel boilers manufactured in the United States increased efficiency and economy in heating, eliminated the need for firemen, helped the American balance of payments, modernized heating facilities, and reduced long-term expenditures for maintenance.[60]

The 6970th LS/CLG played a key role in the entire program to convert heating plants. Kennedy organized U.S. soldiers into teams to work with the labor service units. By April 1970 ENGCOM had thirteen boiler conversion teams in the field, nine made up of enlisted men on loan from USAREUR troop units.[61] The teams made good progress, but cuts in ENGCOM's maintenance budget and a congressionally mandated moratorium on conversion to oil-burning boilers imposed on 12 October 1972 made completion of the program impossible.[62] The program had converted less than half of the 8,755 boilers still in use when it was suspended.[63] In 1972 Kennedy's successor had to procure a small stock of U.S.-manufactured coal-fired boilers to replace those that inevitably broke down. In late 1973, in the face of the oil crisis brought on by the Arab-Israeli War, USAREUR's staff considered converting back to coal.[64]

Stem to Stern Renovations

The high priority that General Polk placed on boiler conversion only highlighted the antiquated state of the facilities out of which the U.S. military operated in Germany. The newest buildings, constructed specifically to accommodate the augmentation of U.S. forces in the early 1950s, had been designed as temporary structures. Built to austerity standards, with a life expectancy from five to fifteen years, they were at the end of their functional usefulness. The balance of the facilities, taken over from the German military, dated from before 1939 and was even more run down.

For years USAREUR had lacked the money and the personnel for routine building maintenance. The repair and utilities budget equaled the programmed requirements in only one year between 1956 and 1964; the engineers could not even maintain the minimum standards prescribed by Army regulations.[65] As resources increasingly flowed to Vietnam, facilities in Europe deteriorated further. While the Pacific Theater spent $523 per square foot for repair and utilities and posts in the continental United States averaged $384 per square foot, USAREUR had only $193 per square foot for Germany.[66]

By the late 1960s troop barracks in Europe were in shockingly deplorable condition. Electrical systems and heating equipment failed regularly. The high mineral content of the water clogged the plumbing systems, frequently leading to broken pipes. Mildew was rampant in the dank shower rooms. Latrines drained through piping embedded in masonry walls. When a leak developed in a latrine pipe, the entire barracks smelled of urine. One officer recalled wryly, "you never had to tell the new recruits where the latrines were.… [Conditions were] worse than a prison."[67]

In March 1966, to address the worst casernes, General O'Meara had earmarked about $5 million of year-end funds for use by the Engineer Element. Because the Army engineers received the funds late in the fiscal year, they had no chance to plan the repairs or to target the most critical situations. As a result, only eleven casernes received piecemeal attention.[68]

General Kennedy resolved to attack the problem more systematically, and he developed a plan to renovate troop barracks and mess halls sequentially. When he discussed the plan with one of the colonels in the USAREUR engineer's office in Heidelberg, the officer agreed that the command needed to repair barracks and casernes "from stem to stern," a characterization that became the label for the program.[69] To launch the Stem to Stern program, ENGCOM asked the district engineers to assemble data on their facilities and prepare plans to renovate latrines, showers, and mess halls. To keep costs down, he instructed them to use their own in-house design capabilities. Kennedy then committed year-end funds from fiscal 1967 to carry out these plans.[70]

The construction engineers from ENGCOM headquarters conducted a complete survey of Sullivan Barracks in Mannheim, and Kennedy ordered labor service troops to gut the building—replumb, rewire, and rebuild it floor by floor.[71] ENGCOM's Engineering Directorate identified Lucas and

Associates in Rome as an architect-engineer firm with experience doing work on repair and utilities for the military. In January 1968 ENGCOM contracted with this firm to survey six other casernes—three from the Seventh Army's V Corps area and three from VII Corps—and prepare designs for their complete renovation. With year-end funds from fiscal year 1968, ENGCOM began renovating four casernes. ENGCOM signed a second contract with Lucas to survey another nine casernes.[72]

By December 1968 the Stem to Stern program was far enough along that, ironically, Kennedy began to get criticism about its slowness. The commanding general of V Corps complained about the slow pace of work in his area, but Kennedy replied that projects in V Corps were "the first to be let for construction." He explained that to take advantage of year-end funds, surveys of conditions, design, and the award of $6 million in contracts had to be completed in only four months. The Army's program to limit the outflow of U.S. gold also required contractors to order such items as floor tiles from the United States, further delaying the work. Despite these problems, Kennedy cited progress on the mess halls at Rivers Barracks in Giessen and at McPheeters Barracks in Bad Hersfeld and on four barracks buildings at Downs Barracks in Fulda.[73] Kennedy hoped that commanders would understand that a systematic program such as Stem to Stern meant that at some point all facilities would be renovated. Of course, the U.S. military operated nearly 800 installations throughout Germany. At the rate of three—or even ten—a year, it could be a long wait.

As work under the Stem to Stern program continued, the ENGCOM staff codified their experiences. Kennedy asked the design engineers to prepare standard plans and specifications room by room so that the plans could be given to district and community (post) engineers for adaptation at any facility. ENGCOM headquarters also prepared lists of materials for faster and more accurate procurement. These standardizations had only limited value, because buildings varied from caserne to caserne and even within a single caserne.[74]

With the war in Southeast Asia continuing, money remained a problem for ENGCOM. By early 1969 the backlog of essential maintenance and repair reached $150 million, and Kennedy expected a reduction in the ENGCOM budget for fiscal year 1970. The staff continued to dwindle, making it difficult even to maintain the utility systems in place.[75]

Given the process for financing Stem to Stern work, ENGCOM could not make the best use of the money it received. Most of the money came at the end of the year from segments of USAREUR that wanted to commit unspent money before it reverted to the U.S. Treasury. ENGCOM always had a backlog of unfinanced projects, but it received the supplementary money very near the end of the fiscal year (30 June). This timing meant that the summer construction season was already well under way, activity was intense, and prices for contracts were correspondingly high. Year-end dollars thus produced fewer improvements than the command could have gained if it could have placed contracts during the winter.[76]

By the end of fiscal year 1969, the program had undertaken work at seventy-seven barracks buildings and nineteen mess halls, less than 10 percent of the facilities that needed attention. Nine months later, by the spring of 1970, Stem to Stern had spent $32 million for projects at about twenty casernes. Kennedy estimated that, at the current rate of repair, correcting two decades of neglect would take at least another fifteen years. He calculated that the program would require an additional $240 million for standard renovation and an additional $333 million to improve supporting utility systems. Kennedy readily acknowledged that Congress was unlikely to approve the money, certainly not "until the permanency of U.S. forces in Germany is settled once and for all."[77] It is startling in retrospect to realize that, after twenty-five years of the U.S. military presence in Germany, permanency remained an issue.

The Stem to Stern program and the deplorable conditions in the barracks began to attract attention in Washington. On a command visit in the spring of 1971, the Army chief of staff, General William C. Westmoreland, inspected renovated barracks. After the tour Westmoreland turned to Kennedy and asked, "Why don't you do this faster?"[78] At one point the general saw huge quantities of black smoke belching from the heating plant at Ferris Barracks in Erlangen. The scene convinced him of the need for remedial action, and he directed that ENGCOM convert the heating plant from coal to oil in spite of existing congressional restrictions. Within weeks of Westmoreland's visit, ENGCOM received orders from USAREUR's deputy commander in chief, Lt. Gen. Arthur S. Collins, Jr.: "As a first priority … undertake a massive project for the rehabilitation of troop facilities to include messhalls [*sic*], sanitary facilities, and heating."[79] Between June 1968 and April 1972 USAREUR put more than $50 million into ENGCOM's Stem to Stern program.[80]

TAB VEE Program

A third priority program for ENGCOM grew out of experiences in Vietnam and in the Arab-Israeli War of 1967 that highlighted the vulnerability of aircraft parked on the ground. If the Soviet Union launched an attack, even conventional weapons could destroy a good portion of American air power in Europe. The Air Force therefore initiated a new building program that ENGCOM managed. Called TAB VEE (Theater Air Base Vulnerability Evaluation Exercise), the program aimed to improve runways and provide shelter for aircraft at air bases in Germany, Holland, and Turkey.[81] The designers assigned one fighter aircraft to each hangar, which consisted of simply constructed concrete walls on three sides and a slightly arched concrete roof. The hangars did not have doors, but they were located in a nonuniform pattern to minimize flak and blast damage. Earthen berms were placed against the walls in some instances, and roofs were painted in camouflage colors.[82]

TAB VEE construction began as a crash program in June 1968. The first projects involved improvements to the pavement in Ramstein,

Bitburg, and Hahn. Seven months after the start, the first aircraft shelters began to go up at Ramstein Air Base. By late 1968 the Air Force had won strong support in Washington for TAB VEE, and the estimate for future construction placement under the program jumped from $10 million to $50 million for fiscal year 1969. At that volume it constituted more than 60 percent of ENGCOM's scheduled construction placement for the year. TAB VEE remained a high-volume project for all of 1968 and 1969. It contributed to a record-breaking workload in design for February 1969, embracing 153 projects and an estimated construction cost of $129 million.[83] By January 1971 the TAB VEE program had accounted for $64.6 million in construction contracts for work at air bases in Ramstein, Sembach, Bitburg, Spangdahlem, Hahn, Erding, and Zweibrücken in Germany; Soesterberg in Holland; Aviano in Italy; and Incirlik in Turkey. By April 1972 ENGCOM had constructed 324 TAB VEE aircraft shelters.[84]

In high-priority programs such as TAB VEE it is commonplace to award contracts before final drawings and specifications are available. Although accustomed to that practice, the engineers still found the Air Force's initial specifications for TAB VEE distressingly imprecise. Furthermore, the requirements changed frequently as the program progressed, delaying completion dates and escalating costs.[85] ENGCOM's Construction Directorate had to respond to the Air Force's objections to these delays at the same time that it tried to maintain surveillance over construction projects and manage the indirect contracting. When the Air Force complained about the charges that ENGCOM levied to manage the program, General Kennedy flew to Washington to explain the complexities of indirect contracting and to defend ENGCOM's management of the program.[86]

ENGCOM Headquarters

An unexpected event interrupted ENGCOM's activities. In mid-November 1968 the two-story wood-frame building that housed command headquarters burned to the ground.[87] Built immediately after the war on the grounds of the I. G. Farben complex in Frankfurt, Annex B was designed with a central spine and six wings off the back of the spine. Although up to four people shared an office, every room had a window and trees surrounded the building. Some staff considered it a pleasant working environment; many regarded the building as a firetrap.

In November 1967 there had been a fire on the first floor beneath Kennedy's office. Flames burned through the floor between stories, and the desk used by Kennedy's sergeant major fell through to the floor below. After the fire was extinguished, gas cans were found in the area. Kennedy and others suspected arson, but there was no proof.[88]

A year later contractors were performing routine maintenance in the building. About 8:00 P.M. on 13 November, Kennedy received the news at his residence in Bad Vilbel of a fire. When he arrived at ENGCOM headquarters, one end of the building was blazing; fire fighters from Frankfurt had an inadequate supply of water and were losing the battle to extin-

guish the flames. As the fire burned, Kennedy and other staff members ran ahead of the flames, throwing files and office equipment out the windows. Local newspapers called it the biggest fire in Frankfurt since World War II. By 4:00 A.M. the building was gone; workers who arrived in the morning saw only the shell.

A skeleton staff crowded into a few rooms in V Corps headquarters and hurriedly arranged to lease an abandoned four-story factory building near the *Messe* (market building) in Frankfurt as temporary headquarters. Labor service troops cleaned the leased building and installed new boilers so operations could continue.

Kennedy wanted a new building for the command. USAREUR's commander, General Polk, was skeptical that the Department of the Army would approve funds. To make his case, Kennedy flew to Washington and met with the chief of engineers and officials at the Pentagon. They approved a new building that was somewhat smaller than Kennedy had wanted. Jacques Bouchereau coordinated design and construction of the building, a three-story rectangular design featuring large open spaces and few private offices. German contractors were encouraged to "do something good for Engineer Command" in calculating costs.[89] The completed building of pre-cast concrete cost about $12 per square foot, a reasonable rate at the time.

Groundbreaking for the new headquarters was held on Thursday, 3 July 1969. Building 31 was completed, except for outside paving and landscaping, on 15 January 1970. The day after an opening ceremony the staff moved in. For the first time the Army engineers in Europe had a new building that they did not share with any other organization.

Ammunition Storage Projects

One of the programs that continued under ENGCOM involved safe storage for ammunition. Attention to ammunition storage intensified as economic and demographic pressures moved the German population closer to U.S. military facilities.[90] By early 1968 seven storage projects approved as a part of the NATO budget for 1963 had reached varying stages of completion. One site remained behind the rest because of problems between the Federal Republic and the state of Hesse concerning the real estate rights for an access road.[91] Work on ammunition storage sites frequently involved removing and disposing of old ammunition, an operation that the German government insisted on controlling and for which its officials could find only one willing contractor.[92]

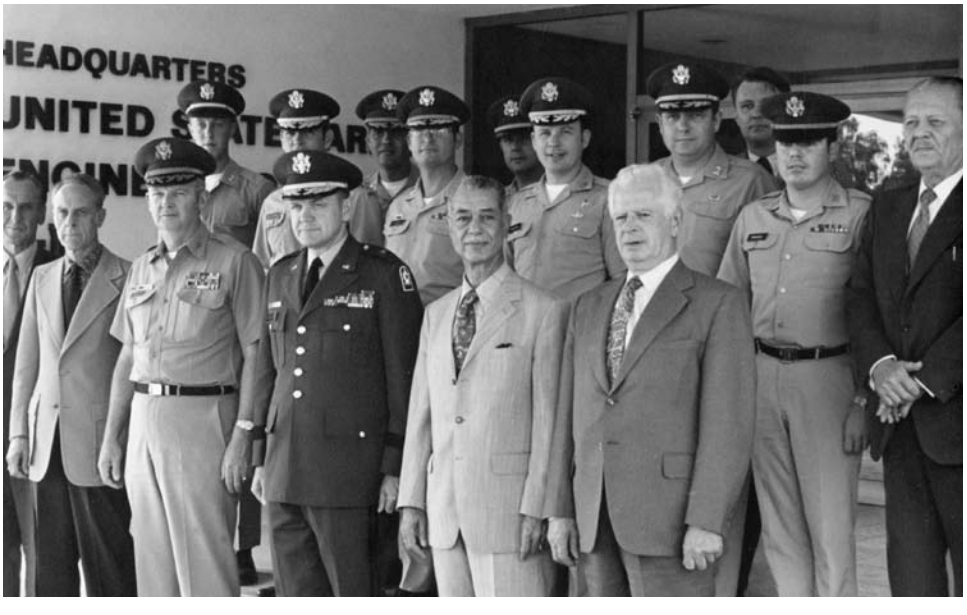
Incidents of terrorism in West Germany in the early 1970s prompted both NATO and the United States to consider the vulnerability of their ammunition storage facilities and to launch a program to improve security. The 59th Ordnance Brigade, commanded by Maj. Daniel Waldo, Jr., surveyed the storage sites in Europe north of the Alps and recommended installation of new security towers and fences. In late 1972 ENGCOM's commander anticipated needing $1 million in fiscal year 1973 to address

the critical requirements identified by the Ordnance Brigade's surveys. When planning began for the fiscal year 1974 budget, the command projected a construction program of nearly $13 million. Construction would extend into fiscal year 1977 and equip fifty-one sites with anti-intrusion devices, special fencing, guard towers, and lighting. The program, which continued to grow after 1974, was subsequently labeled the Long Range Security Program.[93]

Challenges in the 1970s

General Kennedy completed his tour as commander of the Engineer Command in June 1971 and retired. His successor, Brig. Gen. Carroll N. LeTellier, a graduate of the Citadel, had served in Germany between 1956 and 1959 and again in 1966 and 1967 when he commanded the 10th Engineer Battalion in Kitzingen.[94] ENGCOM's first commander, Colonel Young (later Major General), recruited LeTellier to replace the retiring Col. A. Darby Williams as deputy commander and chief of contract construction of ENGCOM. LeTellier arrived in Frankfurt in October 1967, just as Young was leaving. LeTellier served first as chief of the Construction Directorate of ENGCOM and then from May to August 1968 as director of troop operations. In August 1968 LeTellier volunteered for a tour in Vietnam. In June 1971 he was promoted to brigadier general; the next month he assumed command of ENGCOM.[95]

When LeTellier returned to ENGCOM as commander, he found an organization that had more than 570 design and construction projects



General LeTellier and His Staff in the Early 1970s

with an in-place construction value of $434 million. The Vietnam War, budget restrictions, and difficulties in recruiting, however, had reduced the workforce to about 19,000 (a drop of about 2,000).[96]

The command continued to face strong outside criticism. Community commanders still resented having to go outside their own staff for approval of construction on their installations. LeTellier believed strongly in ENGCOM's centralized authority and in its consolidation of engineer resources. To counter the criticism and promote a more positive self-image within ENGCOM, LeTellier used the command's fifth anniversary as the occasion to set up an ad hoc committee to review the past and project a five-year plan. He observed that ENGCOM had "developed habits and procedures through managing one crisis after another, sudden releases and sudden withdrawals of funds, [and] continuous reorganization studies involving roles and missions."[97] LeTellier hoped that the long-range plan would help the command move beyond crisis management.

During 1965–1972 ENGCOM's overall workload and the numbers of staff increased. (*Table 4*) By early 1972 ENGCOM had more than thirty NATO infrastructure projects under design, including missile installations, radio relay stations for the Nike and Hawk systems, special ammunition storage sites, controlled-humidity storage warehouses, and tactical and training sites. Ten other infrastructure projects with a value of about $2 million were already under construction.[98]

Between 1967 and 1970 the Alternate Construction Program, funded by the Federal Republic, had grown from $3.4 million to $11.8 million annually. In 1972 seven alternate construction projects were under design, including housing units in Mainz, Fürth, and Katterbach (near

Table 4

Engineer Command Construction Placement and Staffing
1965–1972

Placement and Personnel	1965*	1966*	1967	1968	1969	1970	1971	1972
Placement ($ million)	26.0	30.0	19.9	20.0	48.2	75.7	69.7	100.0
Staff (actual)	77	82	87	92	93	104	127	141
Temporary duty	0	0	0	0	27	25	20	0
Temporary and over-strength	0	0	0	0	0	32	40	47

Source: EUD Graphics file

*Work conducted by the Engineer Element.

Nuremberg); an access road near Giessen; and an airfield in Bonames near Frankfurt. Another thirty active construction projects had a value of about $31 million.

Modernizing U.S. Facilities

By early 1972 ENGCOM managed nearly thirty separate construction programs.[99] One of the newest and largest was renovation of U.S. military facilities paid for by the Federal Republic of Germany.[100] From 1945 until the activation of the Engineer Command more than twenty years later, improving facilities used by U.S. forces had low priority because of scarce resources and the predilection of local commanders for high-visibility projects. LeTellier termed the inclination of commanders for projects that showed visible results during their tours the "eighteen-month syndrome." Plumbing, wiring, heating plants, and sewage lines—invisible maintenance projects that failed to garner much notice and thus little credit for anyone—received little attention. The Stem to Stern program tried to address these mundane needs, but it took care of one caserne at a time, with never enough money to improve more than a small fraction of the casernes in any one year. LeTellier called it a "never catch up" program.[101]

On 10 December 1971, the United States signed an accord with the Federal Republic whereby the West German government agreed as part of the burden sharing to contribute DM 600 million for the renovation of U.S. military facilities in West Germany (almost $170 million at the official exchange rate). The agreement for Modernization of U.S. Facilities (MOUSF) formed part of the recurrent West German effort to respond to pressures from the United States to offset the costs of the American military presence. Of the DM 600 million made available by the West German government, DM 576 million, or 96 percent, was designated for USAREUR. As a result, ENGCOM had two similar programs to administer simultaneously—Stem to Stern, which used dollars from USAREUR's budget for Operations and Maintenance, Army, and MOUSF, which was funded with Deutschmarks.[102]

The Army engineers had far more freedom in using MOUSF money than in using appropriated dollars.[103] The congressional mandate that halted the conversion of boiler/heaters from coal to oil under Stem to Stern, for instance, did not apply to MOUSF work. Starting in 1972 the Federal Republic began renovating boilers and heating plants in accordance with specifications and technical instructions supplied by ENGCOM.[104] The distinction between dollar-funded and Deutschmark-funded work remained important into the 1990s. Improvements funded by dollars have residual value. As the U.S. military turned facilities over to the Germans, the U.S. government could claim compensation for dollar-funded improvements but not for improvements made under the MOUSF program.[105]

Payments for work contracted in Deutschmarks were complicated by the changes in the international system of exchange rates for cur-

rencies. In early August 1971 the United States abandoned gold payment on foreign-held dollars; and the value of the dollar on international money markets suddenly dropped, meaning that the dollar bought considerably less in German money or services. By 16 August ENGCOM's comptroller, Lt. Col. John L. Buxton, had calculated that the command needed an additional $1.5 million to cover the increase in outstanding obligations and commitments associated with the decline in the dollar's value.[106] A second difficulty arose from the Army regulation that ENGCOM had to convert any money that it held into dollars. Because of this requirement, the command lost money twice when settlement of the obligation would be in Deutschmarks—once on the exchange from marks to dollars and again on the exchange from dollars back to marks to pay the bill. Buxton's deputy, Randolph S. Washington, proposed creating a limited deposit account for marks in a local bank; ENGCOM could use that account to pay German contractors doing work under any program that involved only marks. LeTellier supported the idea, and ENGCOM opened an account despite resistance in Washington.[107]

The tempo of modernization of facilities increased and came to represent the dominant program during most of General LeTellier's command. By April 1972 ENGCOM had managed the partial renovation of 226 barracks and 26 mess halls under Stem to Stern and had placed contracts for another 160 barracks and 31 mess halls. In the first two years of MOUSF, the command completed designs on 283 barracks and 91 mess halls and awarded contracts for the renovation of 77 barracks. Designs were ready on another set of contracts for work on 251 more barracks and 74 mess halls under a later phase of MOUSF.[108]

ENGCOM quickly initiated the renovations supported by MOUSF funds using available designs prepared under the Stem to Stern program. Construction on the first MOUSF project began in January 1972, just twenty-two working days after the agreement was signed. Saul Fraint, chief of technical engineering, established procedures for the program, coordinated design development, and worked with installation personnel on construction schedules. Two architect-engineer firms (Louis Berger with offices in Frankfurt and McGahey, Marshall, and McMillan with offices in Italy) were the principal designers.[109]

The MOUSF program, which concentrated on barracks and dining facilities, did more extensive renovations than Stem to Stern, including suspending acoustical ceilings in dining facilities; completing new shower and latrine facilities; and installing partitions in buildings, facilities for washers and dryers at a ratio of one per thirty soldiers, and mail boxes. Utility systems were totally replaced. The dining halls received all new equipment, funded with dollars and purchased in the United States to help counter the unfavorable balance of payments. To minimize disruption for the troops who continued to live and work at the casernes during the renovations, supervisors and contractors had to maintain a continuous supply of utilities and shift the men and

their equipment from one facility to another as the renovations progressed.[110]

As the work under MOUSF increased, Stem to Stern tapered off; in 1974 the program ended officially. As the money made available in December 1971 was progressively committed, design for future MOUSF projects also began to slow. In late April 1974 a second MOUSF agreement between the United States and the Federal Republic made DM 600 million available for additional renovations ($203 million at the official exchange rate); USAREUR received DM 503 million, about 84 percent.[111]

Upgrading Remote Sites

Attention shifted in the 1970s to U.S. military sites located in remote areas. These installations included communications sites (listening posts), monitoring stations along strategic borders, and missile-launching sites. Generally, the locations were secret as well as remote. Both staff and materials usually had to be flown in by helicopter, and regulations prohibited the ENGCOM staff from taking photos of the construction. The sites were small and their facilities sparse: a building for living quarters, sometimes a separate dining facility; warehouses or preparation buildings; and concrete slabs at the missile launching sites. In some locations a perimeter fence was not necessary. Initially, many sites did not have commercial power.[112]

Located as they were, these installations were not part of a community and did not have a network of support. ENGCOM tried to furnish them with modular prefabricated structures that could be transported by helicopter and assembled in a variety of configurations, depending on site conditions and need. Starting in 1968, ENGCOM began erecting low-cost prefabricated structures from Yugoslavia. On eight sites for the armored cavalry stationed around Fulda, ENGCOM erected twenty-five buildings. The work was deemed minor construction, and each project had a limit of $25,000. To stay within budget, ENGCOM eliminated floor tiles, paint, and other items considered optional. This sort of expedient compromise produced facilities sufficient to complete the mission but severe enough to prompt complaints from the users once the sense of urgency had passed.

In the first half of 1973, MOUSF money became available to improve thirty-five remote sites. ENGCOM solicited bids through the *Bautechnische Arbeitsgruppe* for prefabricated buildings at several sites; other sites called for construction to be done by labor service units and engineer troops. The improvements included barracks, dining facilities, administrative buildings, recreational facilities, portable toilets where there were no residents, and construction of external sewage and water supply systems. MOUSF made $16 million available to ENGCOM to acquire relocatable, prefabricated, air-transportable units and to install them and the utilities to support them. By the end of 1973 work had begun at several sites, but almost 90 percent of the 302 remote sites remained to be upgraded under later programs.[113]

The Phaseout

Consolidation of engineer resources under ENGCOM continued to meet resistance into the 1970s. The negative attitude emanated from the staff at USAREUR headquarters, commanders of military communities, TASCOM, and Washington. In August 1968 a member of a systems analysis team from the Office of the Secretary of Defense remarked on the "general difficulties that were being experienced in accepting the Engineer Command."[114] Continuing skepticism and outright hostility—often cloaked in "data" and presented in lengthy studies—could be traced to three facts. First, community commanders in USAREUR resented ENGCOM's authority over engineer resources that had been available to them previously for work on their installations. They complained that they could not execute their mission effectively when important members of their staff answered to another command. Second, because the Office of the Chief of Engineers did not manage contract construction in Europe—as it did for military commands elsewhere around the globe—ENGCOM had no advocate in Washington. Third, the distinctions between the services provided by ENGCOM and by TASCOM were not clearly delineated.

Both ENGCOM and TASCOM offered support for base operations. ENGCOM concentrated on the engineering functions associated with repair and maintenance, and TASCOM assigned facilities and retained the logistical and procurement functions of the earlier Communications Zone in France.[115] Initially, each command operated through eleven districts in West Germany. In late 1968 TASCOM reduced the number of its support districts by half to six. (*Map 12*) In 1970, under pressure to conform, ENGCOM grudgingly reduced the number of its engineer districts, using the same boundaries as TASCOM. (*See Map 13.*) The reorganization focused on simplifying the military communities' access to support; it also placed the headquarters of the support and engineer districts in the same city and, with two exceptions, in the same barracks or caserne. The simplification did not work. Local commanders complained that they never knew whom to call when they had a problem. The confusion was compounded because ENGCOM also maintained resident engineer offices to handle contract construction.[116]

None of ENGCOM's positive achievements—FRELOC, barracks renovation, boiler conversion, TAB VEE, remote site upgrades—changed the negative attitude toward the organization. In addition, a larger issue remained: Did USAREUR need two separate commands providing support services?

In 1971 USAREUR's deputy chief of staff, operations, published a study, "Project FENDER: An Examination of the Missions, Organization, and Functions of the U.S. Army Engineer Command," concluding that TASCOM could effectively incorporate ENGCOM's functions. The study reluctantly recommended retaining ENGCOM because of work in progress on Stem to Stern and the ongoing negotiations with the Federal Republic concerning what some months later became the MOUSF program.

Map 12

During 1972, discussions on the future of ENGCOM intensified. The recommendations of FENDER II, issued 22 March 1972, proposed reducing ENGCOM's role to that of an agency assigned to TASCOM while retaining the coordination of the three major engineer functions—facilities engineering, troop construction, and contract construction—under

Map 13

one headquarters. USAREUR deferred any decision on subordinating ENGCOM to TASCOM, but it did direct the USAREUR engineer and ENGCOM to eliminate redundant positions and reduce their staffs by twenty-seven and fifty-three positions, respectively.[117] In April, coinciding with the circulation of the FENDER II recommendations, Maj. Gen. Francis

P. "Frank" Koisch arrived in Heidelberg as USAREUR engineer. Koisch quickly concluded that USAREUR did not have the kind of organization that could accomplish its tremendous construction workload. He decided that Europe needed the equivalent of an engineer district.[118] In November USAREUR ordered a study of the structure of the military communities in the Federal Republic. The far-reaching Project Red Wheel study coincided with Department of Defense demands that the Army reduce the size of "management headquarters." The conjunction of pressures prepared the way for a major reorganization of the U.S. Army in Europe.[119]

General LeTellier vigorously defended the ENGCOM integration of contract construction, troop construction, and facilities engineering in a vertical structure of command. Like his predecessors, Generals Young and Kennedy, LeTellier thought it the most efficient and effective way to provide engineer services to the U.S. forces in Europe. In August 1973 LeTellier was reassigned to the United States to head the South Atlantic Division. As he prepared to leave Europe, he composed a ten-page report for the commander in chief of USAREUR, General Michael S. Davison. In addition to addressing a number of general topics related to the engineer mission, LeTellier expressed concern about the future of the Engineer Command. He observed that ENGCOM had been "a step-child during the allocation of resources and the 'whipping boy' when supported organizations evaluate the style of life to which they believe they are entitled."[120]

Brig. Gen. James C. Donovan succeeded LeTellier at the Engineer Command. Donovan had served as area engineer in Metz, France, and as chief of the Design Branch in the U.S. Army Construction Agency, France, from 1959 to 1962. He came to Germany as a new general officer after three years as district engineer in Sacramento.[121]

General Donovan

By the time Donovan arrived in Europe, ENGCOM was under siege from several directions. The insistence in the Senate to reduce the presence of U.S. forces in Europe and a general retrenchment as the Vietnam War wound down created pressure for change in USAREUR. Secretary of Defense James Schlesinger's mandate to increase the ratio of combat forces to support forces—the "tooth-to-tail" ratio—was a manifestation of the changing atmosphere. The increase in the volume of ENGCOM's work, shortages in the officer ranks, difficulties in

recruiting German employees, and budget constraints added to administrative problems. As 1974 approached, the command faced the prospect of running $14 million short of covering its salaries, utility bills, heat, and other fixed costs.[122]

In September 1973 two operating principles crystallized in the Department of the Army: Community commanders should control their own resources and personnel committed to all support activities, and USAREUR should cut its headquarters and management personnel sharply. In response, the USAREUR staff prepared a report titled the "Consolidation of Headquarters and Area Support Elements" (Project CHASE), which outlined a major reorganization in Europe. Project CHASE recommended the abolition of both TASCOM and ENGCOM. To give community commanders in Europe greater control over resources, the plan transferred ENGCOM's responsibilities for facilities engineering to the regional commands: V Corps in Frankfurt, VII Corps in Stuttgart, and 1st Support Brigade in Kaiserslautern. To reduce headquarters, ENGCOM's contract construction functions passed to the OCE in Washington. TASCOM's responsibilities were distributed among the military communities, the USAREUR engineer, and the new 1st Support Brigade (later 21st Support Command).[123]

On 7 February 1974, the USAREUR commander in chief, General Davison, approved the basic proposals outlined by Project CHASE for reorganization of engineer resources in Europe. With ENGCOM's three major responsibilities removed, the core of the organization disappeared. The Office of the Engineer in USAREUR could assume authority over troop construction, real estate, and the U.S. Army Topographic Center.[124] The pressures that General O'Meara had successfully overcome in 1965 and 1966 won out in 1974.

As soon as General Davison made his decision to redistribute engineering resources in Europe, USAREUR in Heidelberg, OCE in Washington, and ENGCOM headquarters in Frankfurt initiated planning to implement the new arrangement. Chief of Engineers Lt. Gen. William C. Gribble, Jr., created a new division and named General Donovan to command it, with Donovan's chief of staff, Col. Edwin S. Townsley, to serve as deputy division engineer. Townsley took charge of establishing policies and coordinating procedures for the transition, appointing the deputy comptroller, Randolph S. Washington, as action officer. The chief of engineers assigned members of his Washington staff to work with Townsley on administrative and managerial tasks such as drawing up support agreements with USAREUR and drafting organizational plans and procedures so that the new division would conform to Corps of Engineers structure and practice.[125]

To reassign the 25,000 people from the support commands being inactivated, the receiving organizations had to write provisional descriptions for the transfer positions, develop tables of distribution and allowances, and prepare formal job descriptions to be processed through the Civilian Personnel Office. The process was tedious and laborious.[126]

The positions associated under ENGCOM with contract construction passed to the new Engineer Division. Administrative support positions attached to ENGCOM headquarters were transferred to the three regional USAREUR commanders to provide manpower for base support functions.[127] These transfers left the new division without the positions necessary to support contract construction, its principal mission. Although the Office of the Chief of Engineers authorized a manpower level of 438 for the division, USAREUR transferred only 310 spaces from ENGCOM and the division received only 280 people who had experience or training in contract construction.[128]

OCE's deputy chief of engineering, Frederick B. McNeely, headed a team of nine people who worked in Frankfurt during April and May 1974 to set up the administrative structure for the new Corps of Engineers. They reviewed staff functions and procedures and wrote job descriptions. Despite their efforts, many employees waiting for new assignments worked the summer of 1974 without knowing to which position, at which grade, or in what branch they would be assigned.[129]

Special attention was given to the Germans who had worked in the Engineer Command. They were indirect-hire employees paid in Deutschmarks by the Federal Republic. USAREUR reimbursed the Federal Republic for their salaries and benefits and paid an administrative surcharge.[130] Over the years USAREUR had signed a series of tariff agreements with the Federal Republic which affirmed that U.S. forces employing local employees would comply with German labor laws on issues of pay, annual leave, sick leave, maternity rights, hours, holidays, and termination procedures.[131] USAREUR and the OCE agreed that the OCE would not negotiate an independent agreement with the Federal Republic. Germans hired to work in the new division would continue to be included with the USAREUR budget and work under USAREUR agreements. Thus, the Germans working at the Engineer Division were not employees of the Corps of Engineers.

On 1 July 1974, the OCE activated the United States Army Engineer Division, Europe, and a new chapter in the organization of engineer functions for Europe began. The Engineer Command had undertaken major new projects, including FRELOC construction, facilities rehabilitation under Stem to Stern and MOUSF, and TAB VEE. It had also continued projects begun under predecessor organizations—converting heating plants; building missile and weapons sites; providing hardstand parking for tanks and other military equipment; securing ammunition storage facilities; and building schools, chapels, and recreational facilities. Construction placement in 1974 totaled $152 million, a 50 percent increase over 1972. Although the Engineer Command ceased to exist, the construction mission continued.