3

DEFENDING THE WEST 1950–1953

The contest taking shape between the United States and the Soviet Union was a global struggle that involved Europe as one arena of conflicting interests. The United States' policy of containing Soviet expansion reached beyond traditional European boundaries to the eastern Mediterranean and Turkey. President Harry S. Truman included Turkey in his speech of March 1947 and made the country one focus of Western defense against communism. The North Atlantic Treaty Organization (NATO) included Turkey and Greece in its area of mutual defense and admitted them into the alliance in 1952.

The Berlin Blockade focused attention on Germany as the land in contention. In great measure the blockade had been the Soviet reply to an initiative to establish local government on a liberal democratic basis in the three zones in western Germany. The United States, Great Britain, and France had encouraged the Germans to draw up a constitution, hold elections, and create a representative government. The process culminated in September 1949 with the formation of the new Federal Republic of Germany. The Soviet Union responded with the declaration of a competing state, the German Democratic Republic, officially established just a month later.

All these events created a political framework for the presence of the U.S. military in Europe that was vastly different in 1950 than it had been in 1945. Beginning in 1950 the Army engineers had to develop airfields in Turkey and the support facilities to make flights from these bases possible. In Germany, they scrambled to find and construct facilities to accommodate the dramatic increase in troops stationed in there, an influx that also increased the need for dependent housing and support facilities. At the same time, the Army engineers had to adjust to the end of the occupation regime and to West Germany's gradual assertions of autonomy, factors that influenced both the financing and the execution of military construction. The new relations translated into projects whereby the engineers contributed to the improvement of German communities in which

the soldiers lived and worked. To protect against possible Soviet aggression from Eastern Europe, the European Command (EUCOM) also had to reconsider its lines of communication and logistical support. Adjusting the lines of communication stimulated more military construction for the Army engineers.

The Troop Base in Germany

The outbreak of the Korean War in late June 1950 profoundly shocked Europeans. They were acutely aware of the similarity between divided Germany and divided Korea. In September 1950, with the North Korean attack fresh in their minds, representatives of the NATO states met in New York and announced that they would consider any attack on the new West German state or on West Berlin as an attack upon themselves. They unanimously adopted a resolution that called for an integrated military force under a unified allied command to defend Europe. They also announced that they would increase the number of allied and U.S. military forces in Germany and position them without regard to zonal lines.[1] This declaration—that the Western Powers in the coalition to defeat Germany just five years earlier would now defend the fledgling West German state—illustrated the dramatic changes in political conditions in Europe between 1945 and 1950. To accommodate the new strategic situation, the three Western Powers agreed to relinquish their military rights under the occupation regime and accorded the year-old Federal Republic of Germany the right to maintain their troops in Germany by invitation.

The new situation required the Western alliance to convert its military presence in Germany into a credible defensive force capable of repulsing an attack from the east. To achieve this status, the number of troops in EUCOM—by 1949 reduced to around 80,000 combat soldiers—had to be increased. Early in 1950 the Department of the Army authorized increases for Europe to take place late in the year and throughout 1951. The command anticipated a troop basis of 164,000 in four divisions plus support units, a figure that was surpassed in the first year. Troop strength almost tripled during 1950 and 1951; total military strength in EUCOM increased from 106,610 to 255,721.[2] The personnel receiving support from EUCOM or United States Army, Europe (USAREUR), during 1950–1953 rapidly increased as the U.S. military expanded its presence and assumed its NATO responsibilities. Only among European civilian employees of the U.S. forces did the numbers decline substantially. (*Table 1*)

In September 1950 the commander in chief of EUCOM, General Thomas T. Handy, asked the Joint Chiefs of Staff to mobilize a field army to command the additional troops. The Seventh Army, activated early in the autumn of 1950 as part of the overall plan to establish an effective NATO fighting force in Europe, set up headquarters in Stuttgart-Vaihingen.[3] By 1 December 1950, the Seventh Army, headed by Lt. Gen. Manton S. Eddy, became the first fully operational American field army to exist in Germany since February 1947. General Eddy assumed the opera-

Table 1

Personnel Receiving European Command Support
1950 and 1953

Personnel	1 Jan 50	30 Jun 53	Change	Percent change
U.S. Army	83,394	215,242	131,848	158
U.S. Air Force	19,244	37,453	18,209	95
U.S. Navy	400	1,115	715	179
U.S. civilian employees	6,681	6,257	–424	–6
European civilian employees	1,405	269	–1,136	–81
Labor service troops	22,664	26,449	3,785	17
Dependents	40,616	78,709	38,093	94
Total	174,404	365,494	191,190	210

Source: Historical Division, HQ USAREUR, "The U.S. Army Construction Program in Germany, 1950–1953," prepared by George Tays, p. 12.

tional authority of USAREUR over all Army units within the European Command. By the end of 1951 the Seventh Army contained two active corps—V Corps and VII Corps—with a total of five divisions. Between late 1950 and 1952 USAREUR continued to exist as the Army's administrative command under EUCOM. Unlike the Seventh Army, the Twelfth Air Force remained independent of EUCOM, answering directly to the Department of the Air Force in the Department of Defense.[4]

Within the new command structure the engineers continued to operate as an element of the EUCOM general staff, but in a reduced status. When Brig. Gen. Don G. Shingler left his position as chief engineer in November 1949, troop levels in EUCOM had fallen below 100,000 and the position was downgraded. Shingler's successor was Col. Willis E. Teale, who served as EUCOM staff engineer from 1949 to 1952. Only in the mid-1950s, after the substantial buildup of troop strength to around 250,000, did EUCOM again designate the position for a one-star general officer.[5]

The American Zone in Germany

No command-wide construction program of any significant volume existed in EUCOM before the augmentation of troops began in late 1950. For several years the Engineer Division of EUCOM headquarters had engaged primarily in rehabilitating buildings and executing routine maintenance and repair. It had begun a modest program to construct family

housing in 1949. By the beginning of 1950 the need to expand construction to accommodate the changing requirements of the occupying forces clearly called for changes in the management of engineer activity.[6] American military supplies stored in vulnerable positions near the borders of East Germany and Czechoslovakia had to be shifted to more tenable locations west of the Rhine to make them more secure and to shorten lines of supply. Both the repositioning of supplies and the increase in troop strength involved the Army engineers of the European Command in planning and executing major building programs.

In April 1950 EUCOM set up a planning board to oversee the construction projected to accommodate the imperative to return requisitioned property to the Germans. Representatives from the relevant EUCOM headquarters divisions—Seventh Army, Twelfth Air Force, and Naval Forces Germany—served on the board and set general guidelines for the construction program. In May the EUCOM Engineer Division took construction out of its Operations Branch and established a Construction Branch. The Operations Branch retained the responsibility to draw up, review, keep current, and approve specifications for construction and to establish policies, procedures, and standard specifications for the types of buildings under consideration.[7]

Once the Operations Branch had processed guidelines formulated by the planning board and approved by the EUCOM chief of staff, the plans moved to the Construction Branch. Projects then passed to the appropriate post engineers, who let the contracts and managed the construction. The Construction Branch supervised the execution of the contracts and set up inspection teams to aid post engineers in obtaining satisfactory work from contractors in the field.[8]

For several months after the reorganization in 1950, one person commanded both the Operations and the Construction Branches; but construction activity intensified with the outbreak of the Korean War and the anticipated augmentation of troop strength in Germany. As a result, EUCOM assigned Col. David H. Tulley to take charge of the Construction Branch in August 1950, a post he held for nearly two years. Contemporaneously, the Department of the Army assigned twelve engineer specialists to Tulley on temporary duty to equip EUCOM's engineer staff to deal with the increase in construction. The department also authorized him to hire fifteen civilian engineers.[9]

The occupation statutes stipulated that Germany pay all costs of maintaining the U.S. forces, but the new partnership between the United States and West Germany made new arrangements imperative. During the early years of occupation, the Army had requisitioned private homes and state properties. American officials proposed that the German government now pay instead the costs of constructing new facilities. EUCOM formulated a five-year budget for construction that the U.S. high commissioner, John J. McCloy, presented to the German Ministry of Finance. The Federal Republic agreed to fund the construction as a long-term capital investment in real property that would revert to German use when the

Americans vacated it. EUCOM agreed to submit budgets yearly through the high commission to the West German government.[10]

As the building program got under way, German federal and state construction agencies raised objections. U.S. Army engineers, they complained, were cutting them out of the planning and bidding processes and dealing directly and exclusively with private German contractors. During the summer of 1951, American military leaders, West German government authorities, and the U.S. high commissioner held talks to work out procedures to include the German Government Construction Agency (*Deutsche Bundesbauverwaltung*, or *DBBV*) in the solicitation of bids and in negotiating with German firms for design and construction. Over the next several years the practice of including the *DBBV* in the contracting process formed the basis of the contracting system, dubbed indirect contracting, that evolved after the Federal Republic attained full sovereignty in May 1955. In the early 1950s a series of bilateral agreements between EUCOM and the new West German government left the major part of U.S. military construction under Deutschmark (DM) funding.[11]

Including German government agencies in the process of design and in construction programs represented a precedent-setting step in adjusting relations between the United States and the new Federal Republic. Equally as innovative, the Germans began formally to propose alternatives when the Army requested use of a facility. As early as 1949 associations of citizens and communities had offered to finance and build housing for American military families in exchange for the return of requisitioned homes to their German owners.[12] The practice continued on an informal basis throughout the 1950s, and it eventually grew into a major program labeled alternate construction.

Troop Housing

The impending influx of Army officers and soldiers posed the most immediate concern for EUCOM's commander, General Handy, in 1950. Handy proposed a four-part program to alleviate the prospective housing crisis. He wanted an increase in the density of troops in existing casernes, the immediate rehabilitation of all available casernes, an accelerated turnover of casernes still held by the International Refugee Organization, and the rapid construction of semipermanent barracks facilities.[13] To ensure space for the arriving soldiers, McCloy directed the West German government to make available eleven casernes in the U.S. zone by 1 November and another twenty-five by 1 December. McCloy's directive hastened the German government's plan to move the displaced persons out of the casernes. Speeding up the process gave the construction crews more time to repair and rehabilitate the facilities before troops began to arrive in 1951.[14]

Handy charged three separate elements to cooperate on planning, setting priorities, and executing the construction needed to accommodate the augmentation of forces. The three elements included the director

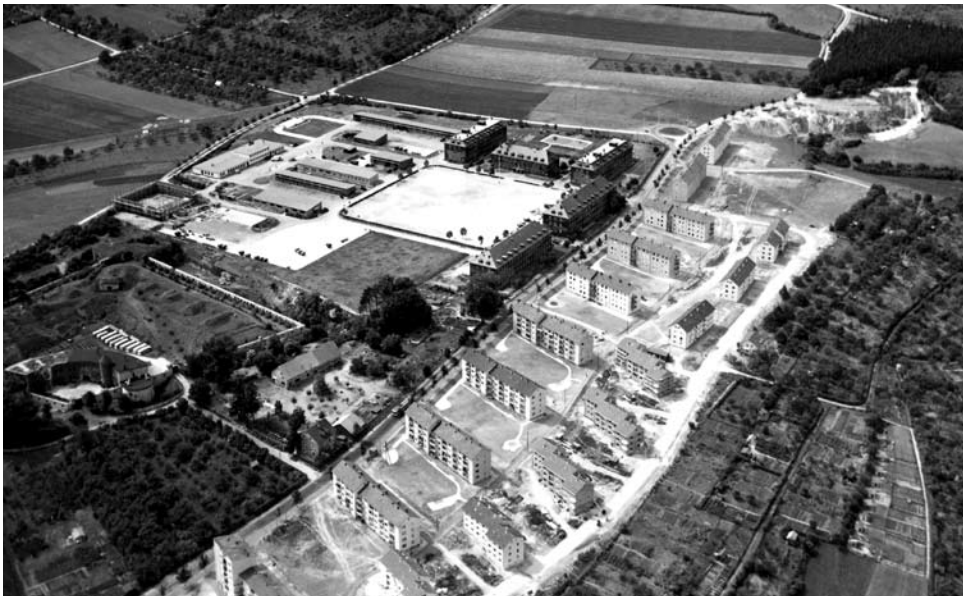
of logistics (G–4), the Construction Branch of the EUCOM/USAREUR Engineer Division, and the Logistics Division planning board that Handy had established in early 1950. The director of logistics was responsible for the overall plan of construction for the command. The planning board prepared forecasts, reviewed requirements for projects submitted by the military posts, settled priorities and locations for construction, and prepared the yearly construction budget submitted to the high commissioner for transmittal to the Federal Republic.

The EUCOM/USAREUR staff engineer, Colonel Teale, was responsible for establishing work procedures and specifications for projects. The Engineer Division approved projects, construction contracts, and construction budgets coming from the military posts. It provided detailed technical and administrative procedures for construction activities and prepared a master plan.[15] Teale was the nominal superior to Colonel Tulley, who commanded the Construction Branch of the Engineer Division, but Teale was ineffective. The newly arrived Communications Zone (COMZ) commander in France described him as "a sad-sack [who] has slipped immeasurably." Under the circumstances, EUCOM's chief of staff, Maj. Gen. Daniel Noce, an engineer officer, instructed Tulley to take charge of the construction program and to report directly to him while keeping Teale informed.[16]

With Noce's active encouragement and support, Tulley visited every military post commander to explain the intensified construction mission and to get authority to deal directly with the post engineer on construction matters. Tulley also instituted emergency construction procedures. These emergency procedures specified that the bidding process include a minimum of three contractors and that the post engineer give contractors a tour of the project site, provide a written description of the project, and solicit a lump-sum proposal from each contractor. Provided that a post engineer observed these steps, the emergency procedures gave him authority to initiate contract negotiations and award the contract to the lowest bidder. By reducing paperwork and levels of approval, the procedure increased the tempo of activity and shortened the time it took to rehabilitate a caserne from six to four months.[17]

To facilitate coordination, troop units deploying from the United States sent advance parties to Germany to consult with the Construction Branch concerning their anticipated requirements. This practice established sound relations between the engineer staff and the eventual users of facilities, which persisted once the units arrived on site.[18] Post engineers organized their staffs into branches for real estate, repairs and utilities, construction, and troop supply and field maintenance. The post engineer offices drafted their requirements and submitted plans to the Construction Branch of the EUCOM Engineer Division, which incorporated individual post projects into a master plan. Each project was identified as either new construction or rehabilitation, but projects from both categories progressed simultaneously.[19]

When Handy issued his guidelines in September 1950, U.S. forces held about 100 former German army casernes. In addition to the facili-



In the early 1950s, U.S. troops moved into the refurbished Reinhardt Caserne in Neu Ulm, near Augsburg.

ties provided by the German government, EUCOM received facilities from French occupation forces in their zone west of the Rhine, from the International Refugee Organization, and from the U.S. high commissioner for Germany.[20]

In February 1951 EUCOM headquarters requested through the Office of the High Commissioner that the German government make available for incoming troops fifty-two additional casernes located in the U.S. military posts of Augsburg, Frankfurt, Heidelberg, Garmisch, Munich, Nuremberg, Stuttgart, and Würzburg. In March and April EUCOM requested still more casernes. Simultaneously, EUCOM engineers proceeded to rehabilitate the casernes already under American control. Of the 158 casernes and other installations under reconstruction in 1951, 80 were completed and occupied by the end of the year. During 1951 and 1952 EUCOM obtained 169 additional casernes from the Germans, all of which the command engineers rehabilitated and repaired using German contractors. The contractors qualified through a standardized bidding process managed at the local level by the post engineers with the participation of the Engineer Division in EUCOM headquarters.

Concurrently with rehabilitation of casernes, the engineers managed construction of tent camps and cantonments designed to accommodate troops while more permanent facilities were being completed. Wildflecken, thirty miles north of Schweinfurt, received one of the first tent camps, constructed between 8 January and 10 April 1951 at a cost of

Despite austere guidelines for housing construction in 1952, Army engineers did build some amenities, including this enlisted men's club in Pirmasens.

more than DM 5 million. A camp for 20,000 men served as a staging area for arriving troops after it was constructed at Sandhofen near Mannheim in the summer of 1951. Similar camps were put up near Mainz, Fulda, Giessen, and Baumholder in the French zone.[21]

In Grafenwöhr, the training area thirty-seven miles northeast of Nuremberg, an 8,000-man winterized tent camp constructed during 1951 remained in use well into 1952. In Bremerhaven, construction on a 5,000-man temporary tent camp used as a staging area for arriving and departing troops began 9 June 1952 and was completed on 1 December. All together the engineers supervised construction of nine tent camps in Germany between 1950 and 1953.[22]

The engineers also experimented in Grafenwöhr with another type of construction to house a division for year-round training. They used pumice stone for exterior walls and corrugated iron for roofs. Conceived as semipermanent and designed for rapid, inexpensive construction, the experimental buildings proved more economical than tents, because they cost less to maintain and could be upgraded for longer-term use. The buildings also improved sanitation. By June 1953 the engineers had used concrete or pumice block construction on twenty-three cantonments.[23]

The engineers installed the utilities and services necessary to support these developments. In Grafenwöhr, for instance, where the Army's building program erected 250 structures in 1950, the engineers also constructed a reservoir and ten miles of sewer and water lines, installed water heat-

ing units to furnish hot water on demand, and provided a system of new hard-surface roads. The cost of rehabilitation, cantonments, and tent-camps came to DM 832,683,600, the equivalent of $198.3 million, which represented 35.2 percent of the total spent on all types of construction in Germany between 1951 and 1953.[24]

None of this construction was luxurious by any measure. Standard allowances under emergency regulations permitted about 100 square feet per person in barracks, one showerhead per 20 men, one toilet for each 15 to 20 men, and one 2-foot urinal trough per 20 men. Post surgeons recommended that window and door screens, largely unknown in German buildings, be installed to keep insects out of medical dispensaries, kitchens, mess halls, and other selected facilities.[25] Army austerity occasionally proved penny-wise and pound-foolish. Despite warnings from the Germans, the Army engineers decided to save money by not applying stucco to troop barracks in Baumholder, relying instead on a cement slurry. When wind-blown rain arrived with gale force and penetrated the walls, it gave "the appearance of a shower bath" to interior rooms. Embarrassed, the engineers applied stucco.[26]

As of September 1953, USAREUR controlled 282 Army and 16 Air Force installations in Germany with a total capacity of about 406,000 beds. At that time the facilities housed only about 329,000, including labor service troops and other nonmilitary personnel. To use all of the available spaces, commands would have had to split military units, undermining their tactical integrity. The apparent surplus of spaces also included unusable facilities and hundreds of requisitioned facilities scheduled to be returned to the Germans.[27]

Bachelor Officers' Quarters

Although a less pressing priority, building bachelor officers' quarters (BOQ) proceeded at the same time as the barracks. The command received approval for construction of the first 6 BOQ buildings on 13 December 1950; more were authorized in February. Construction began in April on 12 buildings of 68 rooms each: 4 in the Heidelberg region; 2 each in Heilbronn, Kaiserslautern, and Stuttgart; and 1 each in Mannheim and Ansbach. By July construction was under way at another 5 buildings, and the list of cities extended to Nuremberg. Six BOQs were completed by the end of 1951, providing 408 spaces. In March 1952 the director of EUCOM's Logistics Division proposed constructing an additional 52 BOQ buildings with 2,448 spaces, half of them for the Air Force; a month later he recommended that 8 buildings be added to the plan. Sites were added in Munich, in the Western Area Command west of the Rhine, and in Schwäbisch Gmünd, Würzburg, Schweinfurt, Bamberg, and Amberg.[28]

In the period from 1 April 1950 to the end of June 1953, the Army engineers supervised completion of 4,914 BOQ spaces at a cost of DM 53.9 million (the equivalent of $12.8 million). USAREUR still needed 12,300

more spaces. Moreover, many of the facilities in use as bachelors' quarters were in family structures or located at a great distance from duty stations. Thousands more spaces were earmarked for derequisitioning once West Germany achieved full sovereignty, factors that increased the overall need.

The task of providing BOQ housing became more complicated when a problem arose with the existing standard designs. The four-story design used during 1950–1953 exceeded USEUCOM's new regulations for floor space per occupant. The two-story structures, while meeting the revised regulations, took from two to two-and-a-half times as much land area per person as the four-story structure. Moreover, German authorities objected to constructing them in urban areas because they considered the semipermanent cantonment design and corrugated roofs aesthetic eyesores.[29]

Troop Training Facilities

The augmentation of U.S. forces also imposed new requirements for troop training facilities. Even with the acquisition of Wildflecken in 1949 to supplement Grafenwöhr, the terrain limited action to regiment-size units. The Seventh Army needed space to train division-size units. In October 1951, after long negotiations with the Federal Republic, the Army secured the use of an area near Hohenfels, southeast of Nuremberg. Initially about thirty-eight square miles, this area could eventually be expanded to seventy-three square miles. Further removed from the Czechoslovakian border than Wildflecken and Grafenwöhr, Hohenfels

Facilities constructed near Hohenfels in 1951 included this mock village for special training.

was less vulnerable to sudden attack from the east and a less provocative location for large-unit training maneuvers.[30]

EUCOM had also entered discussions with the French to use jointly a large training area in Baumholder in the French zone west of Kaiserslautern. In March 1951 the two powers reached an agreement that allowed U.S. tanks and artillery to exercise in the area during specified periods. A part of the agreement provided that the Americans would build semipermanent camp facilities and permanent facilities for about 500 soldiers, in addition to training facilities for use by soldiers from both nations.[31]

During 1952 EUCOM had major projects for construction or modification of training facilities active at five sites and smaller projects at over eighty locations in fifty different terrains in the French, British, and American zones.[32] In Grafenwöhr, construction involved firing ranges for weapons from pistols to antiaircraft artillery, roads, hardstands for trucks and tracked vehicles, permanent quarters for 15,000 men, and concrete-floored tents for another 7,000 soldiers. In Hohenfels, the construction plan provided for thirty-two ranges of various types; accommodations for 17,000 men (10,000 in semipermanent quarters and another 7,000 in a tent camp); a railroad terminal at Parsberg, about eight miles away; and surfaced roads from the terminal to the training area. By 30 June 1953, EUCOM had put over DM 35 million ($8.3 million) into the construction in Hohenfels.

More building went on in Wildflecken. Army engineers oversaw rehabilitation of facilities for 5,000 soldiers, upgrading of a 90-mm. stationary tank firing range, and construction of 30,000 square feet of hardstand. During 1951 and 1952 in Baumholder, EUCOM constructed permanent housing for 10,500 troops; semipermanent quarters for another 3,000; and firing ranges, roads, and courses for rocket launchers, rifle grenades, hand grenades, and close combat training. By 30 June 1953, EUCOM had spent about DM 17 million ($4 million) on construction in the Baumholder training area.

Late in 1952, by agreement with the British, EUCOM acquired the use of Todendorf, located in the British zone about 125 miles northeast of Bremerhaven. At this site, the Army engineers built firing ranges for tanks, a firing range and training area for antiaircraft units, and a semipermanent camp.[33]

These major areas dedicated to troop training, plus the eighty-two other small ranges and lesser facilities, cost about DM 93.3 million ($22.2 million) between 1 January 1950 and 31 January 1953. This type of construction was particularly amenable to troop labor, and engineer troop units participated extensively, giving them training, speeding construction, and reducing the cost in Deutschmarks.[34]

Dependent Housing

During the early years of the occupation, American military construction in Germany, financed by the Germans as part of the cost of occupa-

tion, emphasized facilities for combat troops. Although dependents were permitted into the theater after April 1946, construction to accommodate them had been largely limited to rehabilitation and maintenance of existing facilities. Before 1950 only 324 new family units were built for military personnel; most military families lived in requisitioned or confiscated facilities—that is, private residences, including both houses and apartments. In 1950 American families, single officers, and civilians remained in possession of 20,000 units of housing scheduled for return to their German owners. The dramatic augmentation of troops in Germany and the concomitant increase in the number of dependents created an urgent problem for EUCOM. As requisitioned facilities were returned, housing needs became even more acute.[35]

By late 1950 the modest building program begun a few months before the outbreak of the Korean War had been overwhelmed by the changes in military planning, and EUCOM faced a critical shortage of housing. EUCOM was responsible for a long list of American civilians, including employees of *Stars and Stripes*, the Armed Forces Network, the dependent schools, EUCOM Central Welfare Fund, the American Red Cross, Douglas Aircraft Corporation, International Business Machines, the Esso Export Corporation, American Express, and other organizations that had some official service-related role.[36] To accommodate the large number of eligible persons, the command placed arriving families in transient hotels or recreation centers in Bad Morgentheim and Bad Kissingen, both in the Würzburg area, and in Chiemsee near Munich.[37] During 1951 and 1952

By the early 1950s, facilities in Bremerhaven for troops, dependents, and supplies included family apartments and a theater.

Engineers used ribbed-concrete floor construction for housing in Mannheim, Germany.

dependent housing took 25 percent of the construction budget in Europe. This was substantially less than the 56.5 percent that went into troop housing and training facilities in the same period, but almost three times more than the next-largest category, which included shops, technical service facilities, and depots (9.1 percent).[38]

At the outset of the new construction program, EUCOM had no standard plans or criteria for family housing units, so the command's Engineer Division drew up plans. Because the United States agreed to turn the new buildings over to the Germans when no longer needed to support U.S. military personnel, officials insisted that twelve-unit buildings be designed for easy conversion into eighteen apartments.[39] Later designs had four stories rather than three, included sixteen to twenty-four family units rather than twelve, and offered somewhat smaller quarters (1,215 square feet as opposed to 1,371 square feet). The later designs incorporated a different roof and a different arrangement of kitchens, bathrooms, and quarters for domestic help, making them more economical to build. All building types were designed as permanent construction, with basements of reinforced concrete, exterior walls of hollow pumice blocks, and interior walls of brick. The floors were concrete with a parquet hardwood overlay.[40]

Although the command scheduled slightly more than 4,000 apartment units for construction during April 1950–March 1951 (corresponding to the German fiscal year), by September 1950 it became clear that EUCOM would

need another 4,000 units. In early 1952 another 5,000 units were added to the plans. The engineers hastened to capitalize on the availability of Deutschmark funding before West Germany's pending sovereignty ended the country's obligation to pay reparation costs, including construction. Translating the resolve into action meant that the building plan for dependent housing was revised several times during 1952 and the first half of 1953 to include as many projects as possible. By 30 June 1953, EUCOM engineers had supervised the construction of just over 17,000 family housing units. (*Map 7*) In addition, between July and October 1953, Army engineers built about 2,000 units for Air Force and Navy personnel.[41]

The Helping Hand Program

Not all the engineer activity during the augmentation of U.S. forces benefited only the military. The soldiers themselves worked in a program labeled Helping Hand—part training, part community relations. In 1953 alone Helping Hand involved an estimated $500,000 of work that was in effect donated to German communities.[42]

Wilhelmsfeld, a small community near Heidelberg, profited from a Helping Hand project. The community wanted a sports field and playground for its young people. The community had land available, but clearing and leveling the terrain with traditional German hand labor would have taken more time and money than the local government could afford. Through a U.S.-German advisory council set up at the military post to improve relations, the town requested the help of the Army engineers.[43] In March 1951 personnel of the 77th Engineer Construction Battalion and the Engineer Field Service Center took heavy earthmoving equipment into the forest at the edge of the town. The soldiers moved thousands of tree stumps and tons of earth, working through Good Friday to the surprise (and probably the chagrin) of the Germans. On Saturday evening, with the work completed, the townspeople held a festival-celebration for the Americans. The local choral society sang, children performed, and town leaders bestowed honors on the men who had helped make their sports field a reality.

A more ambitious and far-reaching project took place in 1952 and 1953 in Weingarten, a small community east of Karlsruhe and south of Heidelberg. The local government asked a unit of the 39th Engineer Group stationed in nearby Ettlingen to resculpt the farmland near the town. For generations the land had been subdivided among family heirs successively; small plots divided by hedges and shrubs severely limited the tillable area. Regional planners wanted to consolidate the strips into more efficient fields and settle new farmers on plots large enough to permit the use of farm machinery. A key to the plan was the use of the earthmoving equipment available to the Army engineers.

The project anticipated that the troops would survey the land, remove the topsoil, level the hedgerows and terraces, and then replace the topsoil. The community of Weingarten agreed to feed the soldiers during their workdays. The town mayor selected a local inn to provide food and drink

U.S. ARMY, EUROPE
FAMILY HOUSING
WEST GERMANY
30 June 1953
Area Command Boundary (approximate)
Family Housing Project Site
Other Project Site
0 50 100 Miles
0 50 100 Kilometers
DENMARK
Hamburg
Bremerhaven
Bremen
NETHERLANDS
Hannover
BERLIN
Berlin
EAST GERMANY
Rhine R.
Elbe R.
Leipzig
Dresden
Erfurt
Cologne
Fritzlar
Hersfeld
NORTHERN AREA
WIESBADEN MILITARY POST
Giessen
Wetzlar
Bad Nauheim
Büdingen
WESTERN AREA
Frankfurt
Gelnhausen
Hanau
Bad Kreuznach
Babenhausen
Kirchheimbolander
Mainz
Aschaffenburg
Bamberg
Idar-Oberstein
Oppenheim
Darmstadt
Würzburg
Neubrücke
Worms
Wertheim
Kitzingen
Baumholder
Kaiserslautern
Mannheim
Herzogenaurach
Landstuhl
Vogelweh
Heidelberg
Fürth
Nuremberg
Zweibrücken
HQ AREA
Schwabach
Ansbach
Hohenfels
Metz
Schwäbisch Hall
Münchweiler
Pirmasens
Heilbronn
Crailsheim
Regensburg
Vaihingen
Karlsruhe
Ludwigsburg
Ellwangen
Bad Cannstatt
Straubing
Stuttgart
Schwäbisch Gmünd
Möhringen
Böblingen
Nellingen
Göppingen
Gablingen
Scheyern
Landshut
FRANCE
Neu Ulm
Leipheim
Augsburg
Munich
SOUTHERN AREA
Mulhouse
Bad Tölz
Garmisch
SWITZERLAND
AUSTRIA
Innsbruck
BELGIUM
LUXEMBOURG
CZECHOSLOVAKIA
Pilsen

Map 7

for the soldiers. The innkeeper's daughter, who spoke good English, acted as an interpreter for the enlisted man supervising the surveying, Robert Rodehaver. Town officials communicated with Rodehaver through the interpreter, and he informed the engineer troops of the jobs covered by the plan. The troops moved equipment and earth over several hundred acres, transforming the farmland in a revolutionary way. After his tour in Germany, Rodehaver went home to Wisconsin accompanied by the innkeeper's daughter, whom he married. In 1959 they returned to Germany, where he built a long career as a civilian engineer for the Army.[44]

Not all Helping Hand projects ended as happily as Rodehaver's story. In the small town of Busenbach, also near Karlsruhe, the 291st Engineer Company from nearby Ettlingen began work on 12 September 1954 to help widen a footpath from the railroad station into town. A year earlier this group had built a soccer field for the town.[45] This time, four days after the work began, an Army bulldozer hit a tank mine left from the war; the explosion killed the operator, Pvt. Roy L. Mattson. To honor the young soldier's memory, the town erected a monument. Contributions from people in fifteen communities that had been assisted by the Army engineers helped finance the memorial, and the leaders of Busenbach invited Mattson's parents to Germany. Neither the Mattsons, who worked a dairy farm in Minnesota, nor the communities that funded the memorial could afford the cost of a transatlantic flight, but the Minnesota congressional delegation persuaded the Pentagon to arrange a flight for the family.

On 13 February 1955, Private Mattson's parents attended the dedication ceremony in Busenbach. The German county commissioner characterized the memorial as a symbol "for the peaceful and benevolent cooperation and understanding between peoples, [a symbol] that will serve to exhort us all to work together in peace, understanding, and freedom for the well-being and happiness of all peoples."[46]

Peace seemed elusive in the early 1950s. The West Germans feared an invasion, and East German propaganda played upon their fear. After the fall of Seoul, the South Korean capital, East German leaders spoke of the impending collapse of the "Bonn puppet government" and evoked the prospect of trial in a "people's court" for the pro-Western leaders.[47] The construction managed by the Army engineers in Germany between 1950 and 1953 gave tangible expression to the formation of a common defense for Europe and West Germany. More than bricks and mortar, the construction helped transform U.S.-German relations. The dollars spent on military construction provided a visible sign that U.S. forces would be present in Germany as long as a threat of invasion existed.

Building West of the Rhine

As more troops arrived in 1951 and 1952, construction of new installations proceeded at a frenetic tempo. Creating an entirely new base of operations in the Rhenish Palatinate (*Rheinpfalz*) typified the intensity of effort that accompanied the expansion of U.S. forces.

More remote from a potential attack and more defensible because it lay west of the Rhine River, the Rhenish Palatinate had become the French zone at the end of the war. By 1950 the cooperation among Western states had made such distinctions unnecessary, and diplomatic representatives worked out agreements to shift U.S. forces, depots, and installations into the area around the principal city of Kaiserslautern.[48] The Army transferred tons of supplies into this area from the exposed depots east of the Rhine. Along with the movement of materiel came scores of service and headquarters units.[49]

To accommodate the shift, the Army established its biggest supply base outside the continental United States.[50] Beginning in March 1951 and spending more than $1.19 million a month, the post engineer of the new post, Col. George E. Pickett, managed work on an unprecedented scale. This work included construction and rehabilitation of troop housing, training, support, and recreational facilities; nine major technical service depots with related tactical supply points; radio sending and receiving stations; landing fields for light aircraft; medical facilities; and a host of other military installations.[51] The program also provided 4,800 family apartments for the Army and Air Force, shopping centers, gasoline stations, motor-repair shops, schools, chapels, theaters, and clubs for both enlisted men and officers. The Army engineers oversaw all this construction between the summer of 1951 and the summer of 1953.[52]

When Lt. Col. A. M. Eschbach arrived in June 1951 as chief of construction in the post engineer's office, very little planning had been done for the pending construction in Rhineland. Men, supplies, and equipment were arriving; and he had no facilities in place to accommodate them.[53] Because no established U.S. military headquarters existed in the Rhenish Palatinate, Franco-American procedures for cooperation had to be worked out on the spot. To further complicate Eschbach's task, the area was sparsely populated, its towns and small cities had been badly damaged during the war, and it remained a distressed and depressed area even in 1951. Kaiserslautern supported a population of almost 60,000 in structures with evident war damage.[54]

The size of the undertaking, the need for speed, and the expansion of demands as the program progressed all made the buildup in the Rhenish Palatinate a challenge. Troops of the 2d Armored Division, who arrived during the summer of 1951, found the facilities they were to occupy still under construction. Some troops had to spend the 1951–1952 winter in tents, but many more were housed in hastily constructed semipermanent barracks. The engineers also rushed construction of depot facilities for medical supplies. Contractors rehabilitated a commissary to serve about 200 in September 1951. In July 1952 a new building opened to serve almost four times as many troops. In January 1954 a commissary opened with eleven times the capacity of the original.[55] Such was the pace of expansion.

Throughout Germany, local workers and managers had difficulty dealing with American imperatives in fast-paced construction programs. Eschbach explained that German craftsmen and professionals "well

Construction of a Shipping and Receiving Warehouse near Kaiserslautern, March 1952

understood what was meant by the word 'rush,' but not by [the concept of] 'expediency.'"[56] The Germans wanted to build carefully, solidly, and for the long term, but the Americans were under pressure to get the job done rapidly, economically, and with only semipermanent construction.

A lack of qualified personnel plagued the building program in the Rhenish Palatinate from the outset. Engineer officers were in short supply in 1951 because of a general shortage throughout the Army and the demands of the Korean War. As in Austria and elsewhere in Germany, the Army recruited civilians in the United States, but many were reluctant to take up residence in Europe, especially in the depressed Palatinate. Low unemployment in the United States made it difficult for the Army to offer salaries equivalent to those obtainable in industry and government. In October 1951 the building program west of the Rhine employed only 15 percent of the American personnel deemed necessary for a project of its size. Only 20 percent of the requisite German personnel were on hand. Most of the laborers employed by German contractors came from outside the Rhenish Palatinate.[57]

To compensate for the chronically short supply of labor, Eschbach obtained permission to use troop labor. Most of the soldiers had no construction experience, but they proved willing workers. Teams were assigned on a ninety-day basis, but Eschbach requested several teams to remain for six months. The engineers also used the labor service units made up of former displaced persons from East European countries.[58]

The infrastructure of the Rhenish Palatinate could not support the U.S. military construction. The electrical network was barely adequate to serve rural villages and some small factories in larger communities. To upgrade the Mangin Caserne, an old facility in Mainz, the engineers increased the expected electrical utilization from 400 to 2,000 kilowatts and increased the water system by 400 percent. The family housing project in Vogelweh on the edge of Kaiserslautern used an average of 870,000 gallons of water a day and produced 609,000 gallons of sewage. In Vogelweh, they created a separate water supply system and paid subsidies to Kaiserslautern to enlarge its existing sewage disposal plant. The increased demand on the electrical grid that served the area necessitated expanding the generating capacity throughout the region and increasing the transmitting capacity of the main and feeder lines. Similar problems existed for the road network. The rail network provided adequate lines, but the Army engineers had to build special freight yards and access lines.[59]

The plan to relocate U.S. troops to the Rhenish Palatinate called for developing medical facilities west of the Rhine, to the rear of any expected attack. The engineers built 1,000-bed hospitals in Münchweiler, Neubrücke, and Landstuhl and a series of large dispensaries. They also rehabilitated a former German military hospital and increased its capacity from 150 to 500 beds.[60]

As usual, hospital construction imposed a myriad of special demands. Each facility occupied a large area. Crews grading the terrain had to ensure that the slope for ramps would not exceed the maximum of five

New facilities west of the Rhine included this family housing complex in Vogelweh, near Kaiserslautern.

Medical Facility under Construction in Landstuhl

degrees. The hospital structure—a central building with wings projecting out from each side—required a specially designed heating plant. Medical Corps personnel insisted that wards be oriented to achieve the most favorable conditions of light and air. Because hospitals operated with both German and American equipment, they had to be wired for both 110- and 220-volt electrical circuitry. The air, gas, and oxygen supply lines required copper tubing. The terrazzo floors in surgery rooms had to be equipped with special copper screens grounded to prevent static charges from causing a spark that could ignite ether or other volatile substances. Cork flooring was installed in some therapy rooms to absorb and dampen sound, but the cork created maintenance problems. It could be cleaned only with a cold wet mop; the customary cleaning agent, hot soapy water, dissolved the glue binding the cork particles.[61]

At the beginning of the construction program in the spring of 1951, only a few hundred American military personnel served in the Rhenish Palatinate. By the end of 1953 more than 40,000 soldiers crowded the province, and more than 70 percent of the buildings used by the U.S. military had been built from scratch in less than three years. The building program cost approximately $250 million—half of it new construction—and at its peak employed an estimated 40,000 Germans. The construction program succeeded in creating the largest Army installation outside the continental United States. It provided apartments for 6,000 families, schools for 4,000 dependent children, and facilities for the supplies that would flow from France in support of a force totaling more than 60,000 in the area.[62]

Air Force Infrastructure in Turkey

In 1947 the U.S. government sought to implement the Truman Doctrine by sending military advisers to Turkey. Under the assistance program, the Joint American Military Mission for Aid to Turkey (JAMMAT) coordinated the work of several service groups—The United States Army Group (TUSAG), The United States Air Force Group (TUSAFG), and The United States Navy Group (TUSNG). Each group pursued its own particular activity in support of the Turkish military.[63]

In 1948 the U.S. Air Force began an ambitious program to develop facilities and upgrade existing bases in Turkey and to train the Turkish air force. After a year of effort the progress on the construction was unacceptable. Moreover, the inclusion of Turkey in the Mutual Defense Assistance Program of 1949 meant additional construction would be planned for the Air Force. To execute the Air Force's construction program, one of the officers of the American Military Mission in Turkey, Col. Thomas H. Lipscomb, recommended creating an Army engineer organization comparable to an engineer district in the United States. JAMMAT adopted his suggestion and on 10 May 1950 established The United States Engineer Group (TUSEG) with headquarters in Ankara, Turkey's capital. (*See Map 8*.)

TUSEG began working directly under the chief of engineers in Washington, D.C., but quickly passed to other Corps of Engineer commands: North Atlantic Division in December 1950, East Ocean Division in November 1951, and Mediterranean Division in February 1952. In May 1954 the Joint Construction Agency under the commander in chief of U.S. forces in Europe took over responsibility for construction in Turkey and Greece. Through all its changes in chain of command, TUSEG's character and mission remained essentially the same: construction and engineer support of U.S. Air Force personnel, bases, and electronic listening posts in Turkey.

TUSEG began with a small number of dedicated personnel. In part because the customs, religion, and mores of the local population created a living situation vastly different from either Europe or the United States, Americans assigned to work in Turkey developed a strong esprit de corps. TUSEG's Central Office in Ankara never had more than fifty people, and the number of the staff in the field waxed and waned as projects came into the program. From the outset TUSEG faced a vexing problem of communications. The group always had project sites scattered around Turkey; it also had nonengineer agencies in its chain of command. Mail and telegraph services within Turkey were rudimentary and unreliable. Telephone communications, both within and outside the country, were discouraging at best, so contact with the supervisory office in the United States was rare. Radio equipment for inland communications had the potential to solve one aspect of the problem, but the Turkish government was reluctant to concede radio channels to the group. Air Force airplanes acted only intermittently as couriers.

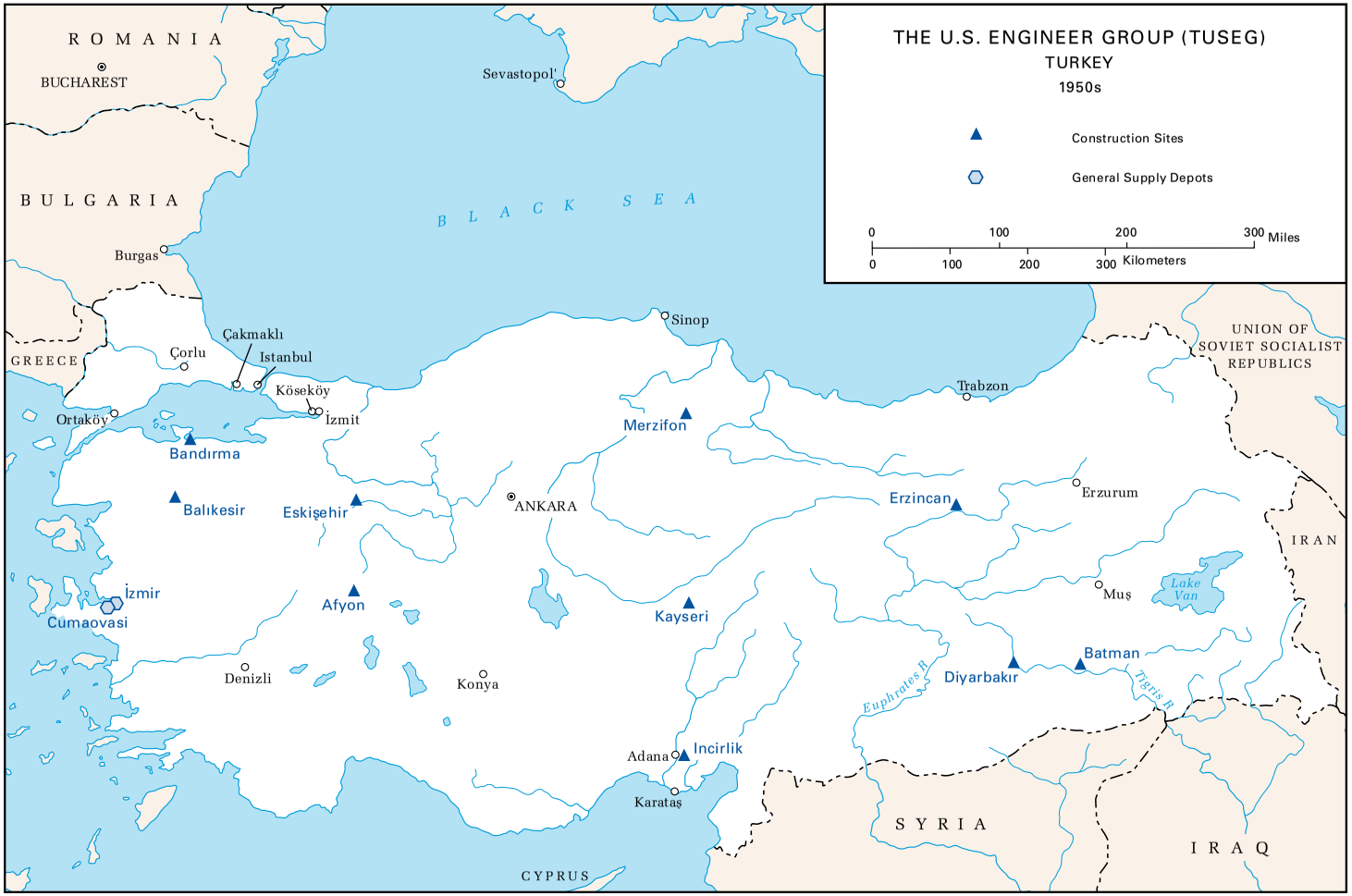
TUSEG's problems extended beyond difficulties of communications. JAMMAT had established a general supply depot near Ismir in Cumaovasi, to which construction equipment, much of it left over from World War II, was shipped in the late 1940s. When TUSEG's engineers tried to draw construction equipment from the depot to begin their jobs in the early 1950s, they found that the American ambassador to Turkey had loaned essential pieces to the Turkish government's Department of Public Works. The Turks resisted returning the equipment to the U.S. military engineers, and the chief of TUSEG had to struggle with Turkish authorities to recover the equipment essential to his mission. Other equipment had been assigned to the Turkish Air Force for projects unrelated to TUSEG's priority tasks. When the engineers finally recovered it, much of the equipment had been destroyed by misuse. In one instance, the Turks had replaced brake fluid in a consignment of thirty trucks with normal engine oil, which had dissolved all the rubber parts in the brake system, making the vehicles useless.

The plan that governed TUSEG's work during the 1950s projected construction or reconstruction at eight locations across Turkey: Diyarbakir, Eskisehir, Kayseri, Bandirma, Erzincan, Balikesir, Afyon, and Merzifon. The projects in Erzincan and Afyon were never built; the project in Kayseri, although begun, was quickly suspended and only completed much later. Other construction was added to the original program, notably in Batman and in Incirlik near Adana. By the summer of 1952, TUSEG's work involved about $30 million in new construction. Subsequent additions brought the total for this phase to about $45 million.

From Truman's speech in March 1947 through Turkey's inclusion in the NATO defensive perimeter for Europe in the early 1950s, the country assumed a special place in the Western military and diplomatic planning. It lay on Russia's border, and building bases there put U.S. military might within striking distance of the Soviet Union in the event of hostilities. Still, Europe constituted the primary focus of conflict between the United States and the Soviet Union during the early Cold War years, and the Soviet blockade of Berlin demonstrated how vulnerable Germany was to both military and political-psychological pressure.

New Lines of Communications

When Cold War tensions increased after the Soviet blockade of Berlin in the summer of 1948, the supply line for the U.S. Army of occupation in Germany and Austria became strategically untenable. The line stretched from Bremerhaven in northern Germany through Frankfurt into southern Germany and to Austria. It paralleled the frontier with the Soviet zone in Germany and the Czechoslovak border for its entire length at a distance of only about fifty miles. This location made it hard to defend even with large numbers of troops; reductions in U.S. troop strength made it impossible to defend the line of communications against any serious Soviet aggression.[64]


THE U.S. ENGINEER GROUP (TUSEG)
TURKEY
1950s
Construction Sites
General Supply Depots
0 100 200 300 Miles
0 100 200 300 Kilometers
ROMANIA
BUCHAREST
BULGARIA
Burgas
GREECE
Çorlu
Çakmaklı
Istanbul
Köseköy
İzmit
Ortaköy
Bandırma
Balıkesir
Eskişehir
ANKARA
Sevastopol'
BLACK SEA
Sinop
Merzifon
Trabzon
UNION OF SOVIET SOCIALIST REPUBLICS
Erzincan
Erzurum
IRAN
Lake Van
Muş
İzmir
Cumaovasi
Afyon
Kayseri
Denizli
Konya
Euphrates R.
Diyarbakır
Batman
Tigris R.
Adana
Incirlik
Karataş
SYRIA
IRAQ
CYPRUS

Map 8

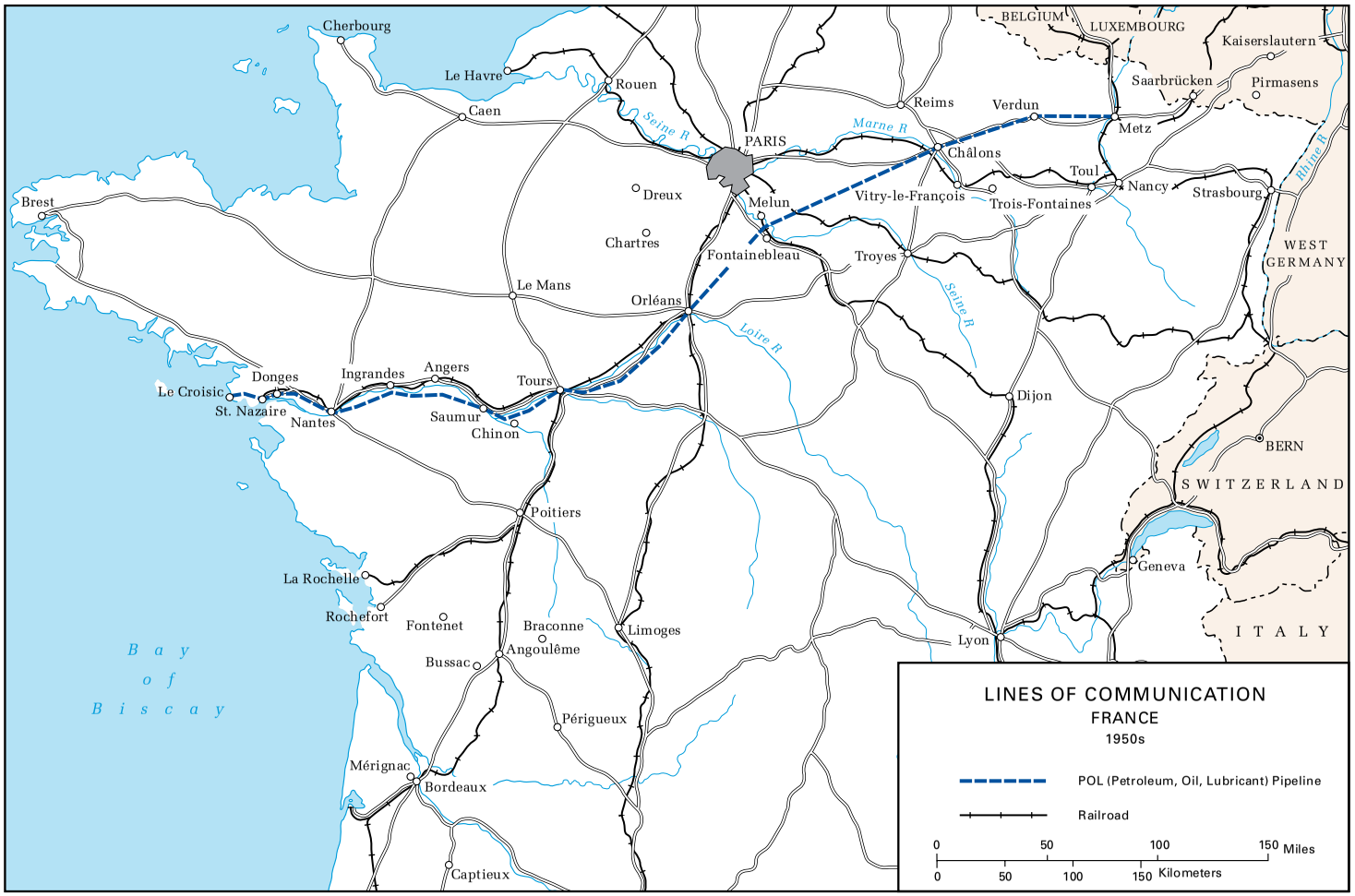
Military logic dictated a change in the lines of communications and supply. The first relocation came in relation to Austria, where since 1945 U.S. forces had been supplied from Bremerhaven through Germany. EUCOM shifted the line of supply by making the port of Livorno, Italy, its starting point. From Livorno, the line ran through Verona and the Brenner Pass into Austria. Italy and the United States signed an agreement in June 1951 to establish facilities to service this new line of supply.[65]

Similar concerns about the vulnerability of supply along the north-south line prompted the commander in chief for Europe, General Lucius D. Clay, to seek authority in October 1948 to relocate his line of supply. He proposed a line across France and instructed his staff, including his chief engineer, General Shingler, to gather the information needed to begin constructing such a new line.[66] In early 1949 staff began studying a route from Bordeaux east through France into Germany. (*Map 9*) Although the route was 650 miles long and would involve extensive construction, it had the advantage of being perpendicular to the projected front of battle in case of any attack and thus less vulnerable.

In October 1949, when the Western allies met in Washington to discuss military requirements to implement the North Atlantic Treaty, they formally endorsed a new line of communications and supply across France. In the spirit of cooperation that underlay the development of NATO, the French were willing to approve the relocation of the major supply lines through their country. Late in the year the State Department began diplomatic negotiations with France; a year later the two countries reached an agreement to establish and operate U.S. military installations in France.

In the negotiations the French government expressed special sensitivity to potential domestic political protests against the introduction of foreign military bases. German occupation during the war and criticism from the French Communist Party made any military presence a touchy issue. As a result, both parties agreed to use "line of communications" when referring to the buildup rather than Communications Zone, the label used during the war. By the summer of 1951 the ploy had served its purpose and the command in France was redesignated as the Communications Zone under the European Command.[67] By mid-1952 COMZ was a major command under USAREUR in charge of administering construction in France for the Army, the Air Force, and the Navy.[68]

From the beginning of the discussions, the French government insisted on sovereign control of activities on its soil. French contractors were to execute all construction on the network of rail lines, waterways, airways, highways, and pipelines necessary to supply the U.S. forces in Germany from ports in western France. The French government agreed to furnish supplies, services, and facilities at cost. All installations would pass to French ownership once the U.S. military no longer needed them. The Army would supervise construction—that is, establish specifications, approve plans, let contracts, and conduct technical inspections—but it could neither use American contractors nor deal directly with local French contractors. It had to deal with French contractors through French


LINES OF COMMUNICATION
FRANCE
1950s
POL (Petroleum, Oil, Lubricant) Pipeline
Railroad
0 50 100 150 Miles
0 50 100 150 Kilometers
Cherbourg
Le Havre
Caen
Rouen
Seine R
PARIS
Marne R
Reims
Verdun
Metz
Châlons
Toul
Nancy
Strasbourg
Rhine R
BELGIUM
LUXEMBOURG
Kaiserslautern
Saarbrücken
Pirmasens
Brest
Dreux
Chartres
Melun
Fontainebleau
Vitry-le-François
Trois-Fontaines
Troyes
Le Mans
Orléans
Loire R
Seine R
WEST GERMANY
Donges
Le Croisic
St. Nazaire
Nantes
Ingrandes
Angers
Saumur
Chinon
Tours
Dijon
BERN
SWITZERLAND
Poitiers
Geneva
La Rochelle
Rochefort
Fontenet
Braconne
Angoulême
Bussac
Limoges
Lyon
ITALY
Bay of Biscay
Périgueux
Mérignac
Bordeaux
Captieux

Map 9

military and civilian agencies.[69] This indirect contracting system anticipated the similar arrangement that emerged in West Germany after 1955. The establishment of sovereign control by the host nation became an issue wherever the U.S. forces built during the Cold War.

The extensive work in France required the establishment of a new American military unit. On 1 December 1949, in anticipation of the successful completion of negotiations then under way between France and the United States, the European Command established the 7966th EUCOM Detachment. With headquarters in Paris, the detachment succeeded the Graves Registration Command that had been active in France since the end of the war. The detachment's initial mission was to prepare, develop, and operate the line of communications across France.[70] Because the Air Force would be involved in developing facilities in France, Air Force officers were added to the staff of the 7966th EUCOM Detachment in January 1950, making it almost from the start an interservice unit.[71]

Brig. Gen. Howard L. Peckham commanded the detachment initially, with Col. Mason J. Young as his engineer. They organized the staff to handle and convey 100,000 tons of supplies arriving each month in Bordeaux and La Rochelle to Germany by rail or to depots in France. The detachment had to construct supply depots and other installations to receive these supplies. By the end of January 1950, U.S. military engineers working with French counterparts had selected sites in Bordeaux, Rochefort, La Rochelle, Fontainebleau, Verdun, and Metz. Eventually, the line of communications included installations in Orleans, Toul, Chinon, Angoulême, Ingrandes, Saumur, and other locations. In April, Young became commander of the 7966th, and he was promoted to brigadier general shortly thereafter.[72]

From the start the detachment operated shorthanded. Although established with 1,000 military positions, it suffered personnel losses almost immediately because of existing policies aimed at reducing military positions in Europe. The detachment did not reach full strength until late 1950. At year's end, the 7966th moved its headquarters from Paris to Orleans and received the additional mandate to provide logistical support for the American contingent at the Supreme Headquarters, Allied Powers Europe, just being organized in Paris.[73]

American military strategists were eager to start storing supplies in France. They quickly ordered an ordnance company and a quartermaster truck company from Bamberg and Mannheim, respectively, to form a 300-vehicle convoy to pick up rations and several hundred tons of ammunition from dumps in exposed positions in Germany and move them to Bordeaux. The convoy arrived on 11 November 1950. Later that month, just days after the agreement with the French had been signed, the Americans rerouted to Bordeaux three ammunition ships headed for Korea through the Panama Canal. Unfortunately, neither the port of Bordeaux nor a storage site for the supplies was prepared to receive the materiel or the 1,000 men from the convoy.[74]

The location chosen for the first ordnance depot was Captieux, about sixty miles south of Bordeaux. The site in Captieux had the political

advantage for the French government of being government-owned land. It had been a military base since World War I and therefore no local landowners had to be displaced. On the negative side, the terrain in Captieux was a huge bog. Because of the composition of the soil and a water table just two feet below the surface, ground water could not drain away. Access roads and rail lines were not yet in place, and the heavy rains of November 1950 threatened to wash out the roads that did exist. The buildings left from earlier military use were no more than stone shells. The roofs and interior appointments had been stripped off and sold by the Germans during their occupation of France in World War II.[75]

The rains continued through February, turning the area into a gigantic mud bowl. Despite water everywhere, drinking water for the men in the camp had to be brought in from twenty-four miles away. Although the site was inappropriate and preparations inadequate, Captieux received sixty railroad cars daily for the first six months of 1951, each loaded with ammunition. Much of the ordnance sat along the soggy roadside.

By summer a profusion of insects infested the area; Captieux became known as "the Siberia of France." In September 1951 the 83d Engineer Construction Battalion, which had arrived in late May as the first construction battalion assigned to France, began to drain the area. With bulldozers, cranes, draglines, and a supply of mosquito netting, they dug over eight miles of drainage ditches; the principal ditch was over four-and-a-half miles long. It took another year before the site began to resemble an adequate facility.[76]

Construction of the line of communications across France began badly in Captieux, and progress was distressingly slow. In January 1951 EUCOM learned that Congress had appropriated $51.5 million for the construction. By the end of the year, EUCOM had committed just over half ($29.4 million) to specific projects. More than eighty projects had been authorized for 1951; by year's end, fourteen were completed and only fifteen others under way.[77]

To account for this unsatisfactory pace the engineer's office in Orleans listed twenty-one factors that contributed to delays in construction. The list included differences in language and culture, absence of heavy construction equipment and power tools, limited experience of the French construction industry with large-scale projects, tardiness and absenteeism owing to poor local transportation and living conditions, excessive bureaucracy on both the American and French sides, and restrictions—which the American engineers identified as "beaux arts"—imposed by a French government agency charged with the aesthetic protection of the French landscape. The engineers ventured a prediction: "It is doubtful that our program will be completed within time schedules thru contractual sources in France."[78] Two years later a journalist from the *Saturday Evening Post* visiting the line of communications found the same problems still evident.[79]

Delays continued during 1951 because the Americans kept expanding the scope of the line of communications. At the same time they hoped

In the early 1950s, U.S. troops in Trois Fontaines lived in tents and prefabricated barracks, often under snowy and muddy conditions.

to negotiate a new agreement with the French. The French refused to renegotiate. Continuing American pressure on the French did nothing to improve relations.[80]

Poor planning, inefficiencies, and delays meant that U.S. troops arriving in France in 1950 and 1951 found only marginally adequate shelter. For the first winter the men used tents; only one of the barracks made available by the French had central heating. Even in the winter of 1951–1952 nearly 10,000 soldiers still bunked ten to a tent. The Army engineers winterized the tents with wooden floors, siding of wood and tarpaper, and a stove at each end, but they were no substitute for permanent housing. Moreover, many tent camps were without conveniently located running water. With inadequate paths and roads, the soldiers remained mired in the mud.[81] American military dependents in France fared little better. They faced an almost total lack of housing and no schools, hospitals, or service clubs. Because of the rapid influx of personnel, the rental market was tight and overpriced.[82]

In seeking to build the line of communications across France, the Army engineers fought more than mud, insects, and tight French control of the construction process. They also faced interservice rivalry: The U.S. Air Forces, Europe, had an agenda for construction in France that did not always coordinate well with the agenda of the Army. Air Force personnel participated on both the staff of the 7966th EUCOM Detachment and the staff of COMZ, but the Air Force chafed under the arrangement that

placed military construction in France in the hands of what they considered an essentially Army command. Starting in December 1950 the Air Force had done its own site surveys for airfields in France. In April 1951 the Air Force announced that it planned to build its own line of communications and supply, raising the prospect that the two services would "collide and compete" for contractors, heavy equipment, materials, and supervisory personnel.[83] Early in 1952 the Air Force opened its own Construction Office in Paris and engaged the services of an engineering company, Construction Management Engineering Associates, to manage the Air Force's construction program in France.[84]

It was not just the Air Force that contributed to competition for personnel and supplies. In 1951 six independent U.S. military commands operated in Europe.[85] All were participants in the rapid expansion of forces. All needed construction and needed it quickly. All wanted rapid responses from the builders, but they were incapable of setting firm programs for the engineers and contractors to follow. During 1951 and 1952 COMZ's engineers received ten revisions of the Army's construction program. Air Force specifications changed as often. These constant redefinitions of requirements led to logistical confusion, escalating costs, and ever-increasing postponements of completion dates for specific projects.[86]

In addition, the COMZ engineers trying to push construction forward had to contend with the French. On many of the air bases, construction plans called for American engineers to build such elements as operational pavement and hangars for U.S. aircraft, barracks for U.S. troops, and similar support facilities. These were, however, supplementary to French construction, which provided the basic construction and facilities for the air bases being built for use by NATO. The U.S. construction was thus dependent on the progress of French construction, and American commanders had no power to hurry their French colleagues.[87]

The U.S. military construction in Europe and in North Africa, combined with the demands of the Korean War, strained the capacity of the Armed Services to manage the program and of the foreign economies to absorb it.[88] In France alone, the American military had launched a half-billion-dollar construction program. The line of communications was planned initially to store supplies for an army of 100,000 men for forty-five days and within two years to expand to supply 260,000 men for sixty days. In 1950 there were fewer than 10,000 U.S. military personnel in France to manage this extensive program. Unlike the situation in Germany during the occupation, the U.S. military had no authority in France to requisition land and facilities. The Americans viewed the French construction industry as stolid and uncooperative. It was certainly overtaxed by the construction load stemming from the expansion of U.S. forces. By April 1952 forty-two projects, each worth more than $100,000, had been contracted, but not one had been completed on time.[89]

In the face of these obstacles, the line of communications was only haltingly taking shape across France. At Camp Bussac, twenty-nine miles northeast of Bordeaux, the 83d Engineer Construction Battalion built a

water system for 3,000 troops. The engineers established a water purification point and laid out a system of pipes across the post to distribute water. They repeated the work in Chinon, where they added a water cistern on a ten-foot tower that created enough pressure from gravity to distribute the water throughout the post.[90] In Bordeaux, this unit converted an old Ford Motor Company plant for use by the Air Force. The buildings had been heavily damaged during the war and needed concrete floors, reinforcing for walls, and windows. At the Merignac Air Force Base just outside of Bordeaux, the 83d also furnished utilities and equipment for French prefabricated buildings that were used as mess halls and latrines. Its personnel surveyed about a dozen different campsites throughout France for placement of prefabricated housing.[91]

Other sites also came on line: a tank farm at Toul, an engineer depot at Chinon, ordnance storage at Angoulême, quartermaster facilities at Metz, signal corps facilities at Saumur and Verdun, and a pipeline to transport petroleum products from western French ports into Germany. When the military exercise COMBINE was held in West Germany in the autumn of 1951, military materiel traveled along the line of communications across France rather than along the Bremerhaven line.[92] By 1952 over fifty American installations dotted the supply line from Bordeaux to the German border.[93]

The results of two years of effort were not, however, commensurate with either the need or the money available for the line of communications in France. With the confusion of the ever-changing construction programs, the waste and friction of the interservice rivalries, and the slowness of progress traceable to problems with the French system, the enterprise was clearly floundering.[94] Although EUCOM created the Communications Zone in mid-1951 to manage the augmentation of U.S. forces in France and to oversee the construction of the new line of communications, it failed to staff it adequately. When Maj. Gen. Samuel D. Sturgis assumed command of COMZ in early 1952, he found that the officer contingent assigned to him represented only 5 percent of EUCOM's officer strength, but that it carried 40 to 45 percent of EUCOM's officer shortage. In his judgment, COMZ was so understaffed that maintaining a coherent construction program remained virtually impossible. He spent the balance of the year working to correct the command's shortcomings. In November 1952 Sturgis succeeded Lt. Gen. Lewis A. Pick as chief of engineers and returned to Washington.[95]

The incessant delays in France prompted officials in Washington in 1952 to propose that they establish a single agency to act as the Department of Defense's executive agent for all construction within the authority of the commander in chief for Europe. Beginning in 1953 management of all military construction in Europe—except Germany—would be brought under one team with representatives from the Army, Air Force, and Navy working under the Secretary of the Army.

By the end of 1953 the U.S. Army engineers working under the European Command had extended their support network into Turkey.

They had begun to construct bases in France to oversee the new, more secure line of communications from the Atlantic into Germany. They had also established an American military presence of impressive dimensions within the French zone of occupation in the Rhenish Palatinate and, in the U.S. zone, built the facilities necessary to handle the rapid increase of American troops and personnel from fewer than 100,000 to over 250,000. Work in France would expand throughout the rest of the decade; in West Germany, the engineers would face the adjustment necessary to cope with the establishment of political autonomy, the lifting of the occupation regime, and, accompanying that change, the end of Deutschmark funding of the American military presence.