4

CONSTRUCTION IN THE MID-1950s

The military buildup in Germany and France and the periphery of the Soviet Union strained American military engineer resources. By 1953 the Engineer Division of the European Command (EUCOM) asserted sufficient management control of the expanding construction program in Germany to achieve orderly progress. In France, by contrast, progress was neither orderly nor satisfactory. The disarray prompted the U.S. defense establishment to reorganize management of the overseas construction program. In January 1953 the Department of Defense created the Joint Construction Agency (JCA) to oversee construction for all of the military services in Europe outside of Germany.

Despite progress in Germany, the Army faced challenges that impinged on the construction program. After the end of the war the German government had borne the costs of the occupation, including the costs of military construction. As the Federal Republic of Germany became an ally, arrangements to pay the costs of occupation changed. The Engineer Division's budget now depended on the appropriations process in Washington and congressional review.

Deutschmark Construction in Germany

Germany was the only North Atlantic Treaty Organization (NATO) country in Europe that fell outside the construction authority of the JCA. U.S. military construction between 1953 and 1957 continued under the procedures worked out with the government of the new Federal Republic of Germany. In contrast to all other construction, the West German government was still paying for construction in Germany in Deutschmarks (DM), an extension of its responsibility to bear the costs of the occupation. For the period 1 July 1953 to 31 December 1957, Deutschmark construction for the U.S. Army cost DM 1.64 billion, the equivalent of $390.9 million at the prevailing rate of DM 4.2 to the dollar. Between 1950 and 1953 the Federal Republic of Germany had funded another DM 2.5 billion of

American military construction ($595.2 million at the exchange rate for the early 1950s).[1]

By 1953 the three Western Powers occupying Germany had made a clear commitment to extend full sovereignty to the Federal Republic. Sovereignty meant the end to Deutschmark funding, but negotiations on sovereign status were delayed by their inextricable link to parallel negotiations among the West European states to include West Germany in a European defense community. The negotiations influenced the United States Army, Europe (USAREUR) construction program only insofar as Army planners kept expecting the Deutschmark funds to end. When the Federal Republic did attain full independence, it agreed to continue Deutschmark funding through 1957 to allow orderly completion of existing projects. During the transition, between 1953 and 1956, American military construction in West Germany operated much as it had after the Federal Republic's creation in 1949, preparing facilities for U.S. troops positioned to defend Western Europe and for their dependents.[2]

Dependent Housing

Between 1950 and the end of 1952, the buildup of U.S. forces to support NATO, with its dramatic increase in the numbers of U.S. troops, had produced a demand for dependent housing that far exceeded availability. Beginning in February 1951, dependents had been restricted from entering West Germany because of insufficient housing. The flow of troops into Germany slackened in 1953, but a backlog of requests for dependent residence kept the demand for housing high.[3]

During the autumn of 1953, USAREUR's commander, Lt. Gen. Charles L. Bolte, called for construction of new dependent housing. He wanted to enable the command to return to German proprietors all but a few essential requisitioned properties. He also was determined to make government quarters available for dependents and reduce the time—an average of ten months by late 1953—that a serviceman's family spent separated from him. Bolte commissioned a survey that identified a need for a minimum of twenty-five thousand new family housing units, most of which would involve construction funded with Deutschmarks.[4]

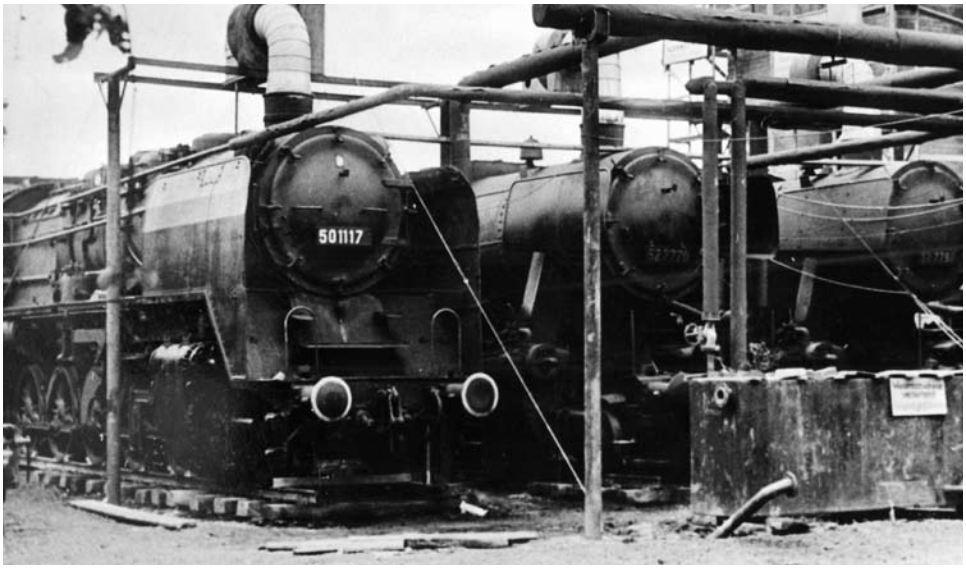
A three-year plan called for construction of about 19,000 family housing units in the first year and 5,900 more over the final two years. The plan's proposed construction anticipated slightly fewer housing units than Bolte's survey had identified as the minimum need. Even at that, it encountered obstacles that complicated its execution. In August 1953 Congress and the Department of Defense limited floor space to an average of 1,080 and a maximum of 1,250 square feet per unit.[5] In January 1954 the Department of Defense temporarily froze all funds for construction of new housing and directed that projects not yet initiated be resubmitted for approval. The fear that Deutschmark funding would end in 1954 and all the units would have to be funded with appropriated dollars also constrained American military planners.[6]

To take account of these pressures, as well as to meet the revised specifications on floor space, the Army engineers devised a new standard building with three stories and eighteen family units, equally divided among two-, three-, and four-bedroom apartments. Most of the buildings were furnished with central heating from a "district" plant that served several apartment buildings.

Providing such a heating source for a group of apartment buildings led in 1954 to one of the more unusual engineering solutions. The first 22 buildings of a 45-building, 810-apartment family housing complex in Kornwestheim near Stuttgart were scheduled to be available for occupancy on 1 September, but Army engineers rejected the German contractor's plans for the central heating plant as below acceptable standards of efficiency. The redesign of the heating plant delayed its completion, and the contractor was unable to provide heat in time for the scheduled arrival of dependent families.

H. Jace Greene, construction engineer for the Stuttgart military district, rented three train locomotives from the German National Railroad and attached them to the complex's heating system while work on the central heating plant continued. The train engines became portable boilers. Mounted adjacent to the apartment complex on specially adapted bases, they provided heat to the buildings for sixty-six days, until the permanent heating plant was ready. The cost of this arrangement per day for each apartment was approximately 1 DM.[7]

The construction plan for 1954–1957 called for about 22,000 new family housing units to be completed by the beginning of 1958. Ninety percent of the planned housing was for U.S. Army personnel. Total cost of the



Railroad locomotives provided heating to an apartment complex in Kornwestheim.

construction came to just over DM 1 billion ($238 million at the exchange rate). The average cost per apartment unit ran about DM 42,000 ($10,000) for fiscal year 1954 and about DM 54,600 ($13,000) for fiscal year 1955.[8]

From 1950 to 1957 dependent housing accounted for the largest single share of construction money (42.3 percent). During the early years, spending was relatively high on troop housing and training facilities. As facilities for troops were completed, programs to provide dependent housing took a greater part of the construction budget. Between 1953 and the end of the Deutschmark construction program in 1957, spending on family housing more than doubled.

Bachelor Officers' Quarters

A shortage of bachelor officers' quarters (BOQ) characterized the early years of the buildup, and, in spite of the completion of over 4,000 BOQ units, USAREUR still faced a substantial need in 1953. The command encountered complications with the standard design for the BOQs. The United States European Command (USEUCOM) guidelines had reduced floor space per occupant, and the four-story design used during 1950–1953 exceeded the new regulations. The USAREUR engineer's office had standard plans for another BOQ building that met the new regulations on floor space, but this two-story structure required more than twice as much land per person as the four-story building. It had a second liability: Local authorities considered it an eyesore. To resolve the problem, the USAREUR engineer sought and obtained from the Department of the Army a modification of the USEUCOM criteria and thus was able to continue to use the four-story structures, which the Germans accepted without objection. Between mid-1953 and the end of 1957 a vigorous construction program created nearly 5,000 BOQ spaces and achieved a near balance between demand and supply.

Community Support Facilities

Engineer programs also addressed basic utilities. The chlorinating of water, an issue of public health in the minds of the American military authorities, had been imposed on German communities by the occupation authorities. Many of the German cities and towns from which the military purchased water strongly objected to chlorination. As West Germany approached sovereignty, these communities made it known that they would discontinue the practice. When the occupation statute officially ended in May 1955, USAREUR had to set up its own chlorination program to supply water to U.S. troops and to family housing complexes. The concentration of Americans in compact communities and casernes made implementing this program relatively simple.

Medical facilities for the U.S. military in West Germany expanded rapidly during the 1950s. Between 1950 and 1953 Army engineers supervised construction, rehabilitation, or enlargement of fifteen hospitals. In the

next four years engineer programs put more emphasis on rehabilitation and extension than on new construction, although a new 250-bed hospital was built in Heidelberg. Of the ninety-seven Army medical dispensaries in Germany in 1957, thirty-two were new or newly rehabilitated. The program provided nine new dental clinics over the same four years.

All these health facilities—hospitals, dispensaries, dental clinics, and sanitary water supplies—absorbed relatively little of the overall construction budget. They all fell into the funding category of "administrative, maintenance, air navigation, medical, and other facilities." Construction in this category accounted for only 7.3 percent of total Deutschmark funds spent between 1950 and 1957.

Miscellaneous work on facilities to support and serve the military and dependent communities throughout Germany accounted for 6.4 percent of the construction funding for the period. This work included schools. Before 1950 a modest school system for military dependents had existed. The funds expended between 1950 and 1957 financed the development of an entire school system for American personnel in Germany.

Planning for the expansion of schools for dependents was poorly handled. The overall program to accommodate arriving dependents had no comprehensive, long-range plan and did not take into account the needs of each community. USAREUR's dependent school unit did an excellent job of forecasting the school population from year to year, coming within 2 percent of the totals of arriving schoolchildren, but the Logistics Planning Board and the comptroller refused to accept these estimates and

The high school in Furth near Nuremberg was part of the extensive school system constructed in Germany.

directed that they be revised downward. As a result, most school buildings were overcrowded from the moment they opened. Even additions proved inadequate to meet the existing demand. Between 1951 and 1953 three-quarters of the schools built had from three to fourteen additional rooms under construction by the time they opened or shortly thereafter. With construction costs increasing at a rate of 15–20 percent a year in Germany, such poor planning cost money.[9]

By the end of the school year in 1953, USAREUR operated eight high schools and seventy-two elementary schools in Germany with an average monthly enrollment of just under 15,000. By June 1957 there were twelve high schools; the number of elementary schools operated under USAREUR had decreased to sixty-nine as a result of the transfer of three schools to Air Force jurisdiction. Average monthly enrollment for elementary and high schools had virtually doubled, however, to 29,500.[10]

In addition to schools and medical facilities, community support facilities included chapels. From 1950 to 1957 Army engineers built almost 100 of the 237 chapels available to service personnel in Germany. The EUCOM Engineer Division, in consultation with the chief of chaplains, developed four standard plans for chapels with capacities of 175, 350, 500, and over 500 seats. The engineers recommended that communities of fewer than 1,000 people rehabilitate an existing building or build a simple chapel designed for the specific circumstances of the community rather than construct a chapel based on one of the standard designs.[11]

Community support facilities in Germany included chapels, such as this one at Downs Barracks in Fulda.

Troop Training Facilities

Construction of training facilities had taken precedence over dependent communities in the early years of the buildup. Between 1953 and 1957 it declined to less than 1 percent of the total spent on construction (DM 9.5 million [$2.3 million at the exchange rate] of a total expenditure of DM 1.64 billion [$39 million]).[12] Still, the construction of a wide variety of training facilities—airstrips, liquid fuel dispensing facilities, communications and navigational aids, passive air defense structures, and tank and other firing ranges—continued.[13]

Joint Construction Agency in France

Activated on 15 January 1953, the Joint Construction Agency had an unenviable task. Although the United States Congress had supported the program to construct a line of communications across France and had appropriated substantial amounts of money, progress in placing construction had come to a standstill. The JCA's mandate was to get construction moving. In practice, the JCA concentrated on construction in France; it assumed responsibilities in Austria, Italy, Greece, and Turkey only in 1954.[14]

The Department of Defense expected the JCA to get the best buy for the American construction dollar by eliminating competition between the services, avoiding unnecessary duplication, and applying uniform criteria and standards in design and construction. Contradicting its insistence on rapid progress, the Department of Defense twice imposed freezes on construction in France during the JCA's first two years of operation. These freezes undermined the JCA's credibility and disrupted the agency's efforts to overcome the bottleneck in construction placement developed between 1950 and 1952. With some success, the agency's staff in both the central and field offices cultivated cordial relations with the French officials in the military and civilian agencies that made decisions concerning U.S. military construction. That success was undercut by the difficulty of explaining to these officials why projects on which the JCA had been pushing the French for urgent approval could be suspended so abruptly. In addition, the agency's operations suffered from the tensions that developed between France and the United States over events in the Middle East. These factors, all of which lay outside the JCA's control, substantially impeded the agency's efforts; the JCA's short history has the quality of a roller-coaster ride, plunging and rushing between absolute frustration and commendable success.

The organizational plan for Europe anticipated that the Joint Construction Agency would be directly subordinate to the U.S. European Command; but initially USAREUR, with headquarters in Heidelberg, exercised authority over the JCA through its Communications Zone (COMZ) in France. By April a revised command arrangement put the JCA's commander directly under the USEUCOM commander and at the

same organizational level as the commanders of the command's other component services.[15] As a joint command involving all the services, the JCA had three officers representing the Army, Air Force, and Navy and acting as special staff assistants.[16]

Maj. Gen. George J. Nold took command of the JCA a month after its activation, with Brig. Gen. Orville E. Walsh as his principal deputy. Both were Army engineers. Nold served until July 1955, when another Army engineer, Maj. Gen. Bernard L. Robinson, succeeded him. As in the Corps of Engineers' organization in the continental United States, on which the JCA was explicitly modeled, military officers commanded the agency, but civilians held most of the staff positions. The structure—a headquarters office with district offices close to the actual construction sites—permitted centralized control and decentralized operations.[17]

The JCA first opened offices in Paris, but within weeks the agency moved its headquarters to suburban Boulogne-Billancourt. Both the Army and the Air Force, drawing from existing military construction operations scattered throughout France, provided startup staff for the JCA headquarters. On 1 April 1953, the new construction agency took over the three engineer districts that had existed under the Communications Zone and incorporated them as the Port District, the Northeast District, and the North District.[18] (*Chart 2*)

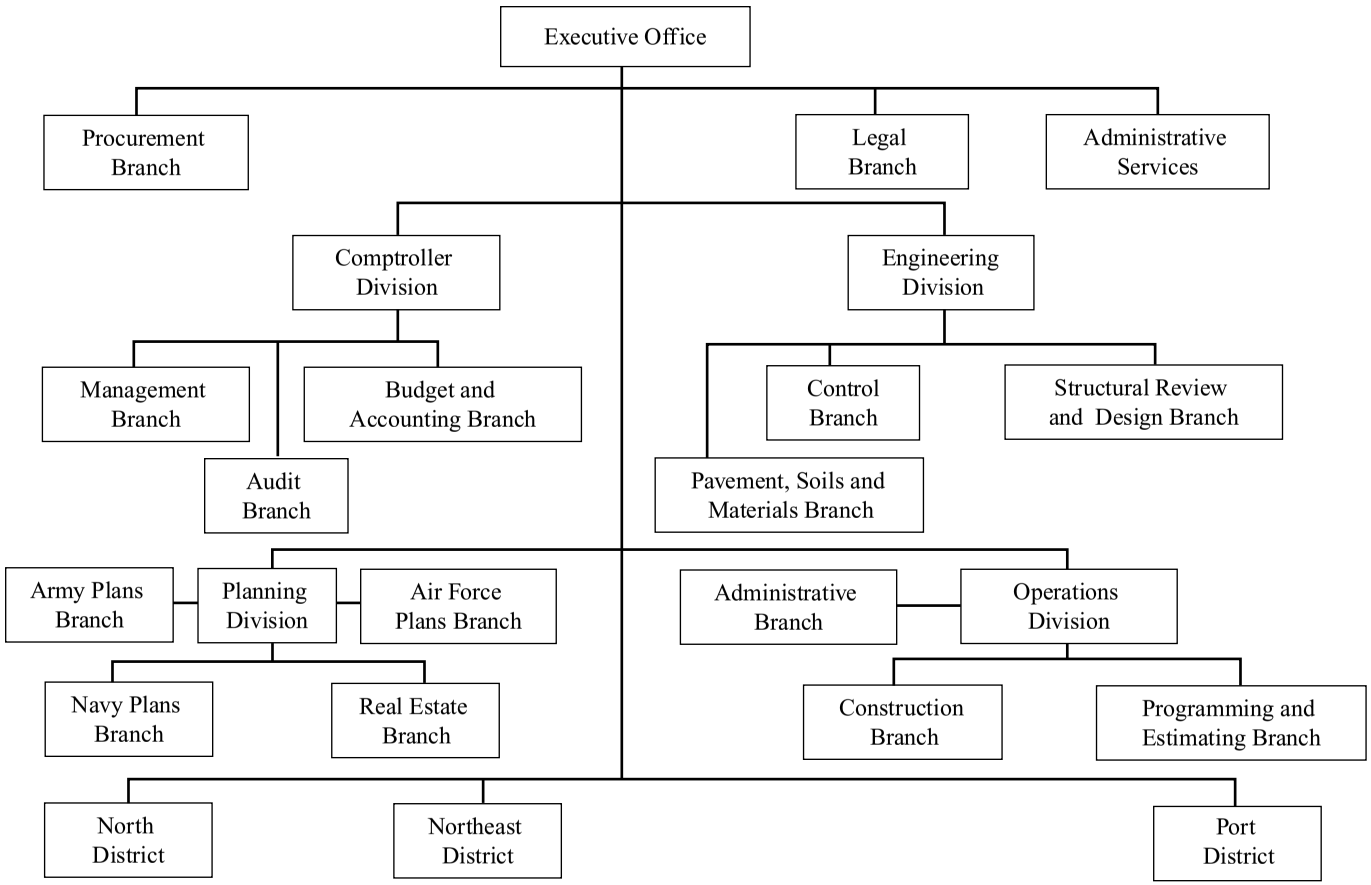
The Port District had its office at Bordeaux, and the Northeast District was located first at Verdun and later at Nancy; North District shared space with the central office in Boulogne-Billancourt. As the JCA's activities spread to other countries, the agency organized additional geographic districts to manage construction, but the three original districts concentrated on reducing the backlog of work in France. The headquarters maintained general supervision, overall control, and liaison with the French government. The commanders of the using services remained responsible for identifying sites for construction, securing approval from the host nation for the access to and use of the sites, and acquiring the land.[19]

Administrative Procedures

When the JCA began its work for the Army and the Air Force, the combined programs in France involved about 2,500 individual projects at some 120 sites from the Atlantic coast to the western frontier of Germany. By the end of 1953 about one-quarter of the $400 million construction program for the two services was *value in place*, that is, taking shape on the ground although not necessarily finished. Less than 10 percent of the overall construction scheduled for France had been completed.[20]

Explanation for the delays lay partially in the complexity of the contracting relationship with the French. Six agreements negotiated between November 1950 and August 1952 placed all U.S. military construction in France under the control of three French agencies: *Génie*, the army engineers for military installations; *Ponts et Chausées*, the civilian agency for bridges and roads for many of the supporting elements; and *Service de*

Chart 2: Organization of the Joint Construction Agency, 1953



l'Infrastructure, the infrastructure committee for work involving NATO.[21] The French insisted that projects initiated by the JCA be presented to one of these agencies at each stage from design through construction and inspection. Normally, the U.S. military engineers could deal with local French contractors only indirectly through the appropriate French government agency.[22] (*Chart 3*)

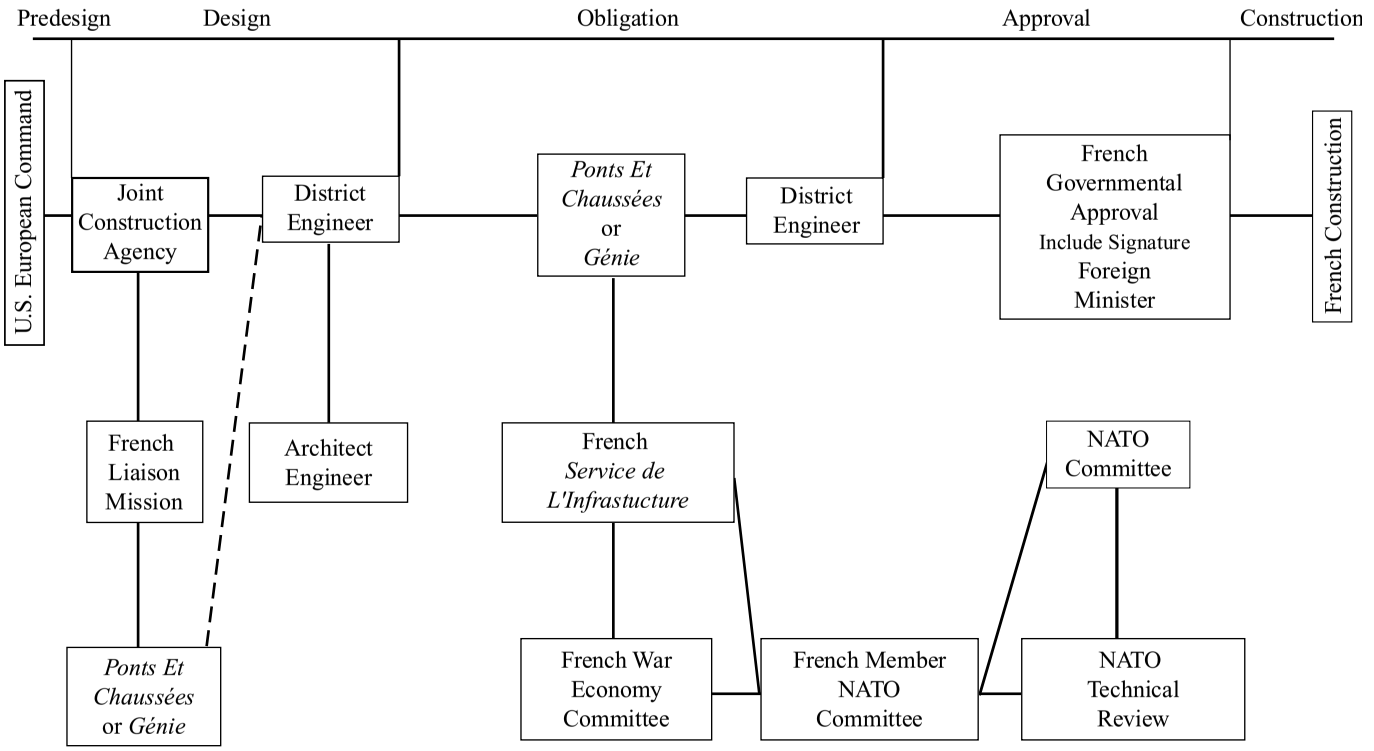
The process was cumbersome at best and paralytic at worst. Numerous differences in administrative approach provoked problems for which solutions had to be devised. For instance, the French insisted that money be committed for the construction of any project before they called for bids, even on its design. The U.S. Bureau of the Budget, by contrast, would not obligate funds until a construction contract had been awarded. This amounted to a situation in which the French would not start the contracting process until the money was available to complete construction, while the U.S. government would not make the necessary money available until there was a satisfactory contract. This impasse was bridged by the creation of a special account from which the French government paid French contractors and into which the JCA paid the reimbursements that it received from the military services.[23]

The special account allowed the JCA to assure the French agency that funds were available when presented with the proper form for bids on design.[24] Unfortunately, instances occurred in which U.S. military services did not deliver funds that the JCA had guaranteed and on which it had made good faith commitments to the French. These situations caused acute embarrassment to personnel in the JCA and made French officials mistrustful.[25] The development of standard operating procedures for French bureaucrats working with the Americans was a painstaking task that continued throughout 1953.[26]

Lack of coherent and consistent planning by the U.S. military leaders contributed to disruption and delays in construction. Neither the Army nor the Air Force had firm construction programs when the JCA began its work, and the services changed their requirements and criteria with distressing frequency. The Air Force, for example, drew up its first construction program in January 1953, and the JCA began to implement it in March. Toward the end of June the Air Force submitted major revisions, not as an integrated program but rather in a series of construction authorization forms. A short time later the Air Force informed the JCA that its program would be "substantially altered." Although the Air Force promised a new program each month from October to December, it did not deliver one to the JCA until January 1954. Additional revisions arrived three months later. By the end of 1954 the Air Force had submitted six different construction programs to the JCA in fewer than twenty-four months.[27] Changes in specifications or scope not only lengthened the process but also undermined the confidence of the French government's representatives in American assertions of urgency and commitment to specific projects.

The JCA also had to deal with delays in payment. The Air Force's supplemental funds for construction, scheduled for payment to the JCA in

Chart 3: Joint Construction Agency Construction Procedure in France



April 1954, were not actually available until October. All the design work for the projects was completed between May and September, but the JCA could not solicit bids on construction until the money was in hand.[28]

Similarly, changes by the Army in the hospital construction program and lack of information on equipment to be installed increased costs, contributed to delays, and embarrassed the JCA. The whole pattern of late changes, shifting criteria, and uncertain funding prompted the director of the JCA, General Robinson, to make repeated demands that such practices cease. He argued with staff in Washington that the JCA could make no progress in France "*under a staff policy which permitted continuing program and fund manipulation*." Washington assured General Robinson that changes would be minimized; but the changes continued, creating administrative headaches for the JCA right up to its closing hours in July 1957.[29]

Despite shifting criteria and frequent changes in program, the JCA made progress. Even by late 1953, when the Office of the Chief of Engineers in Washington ordered a study of the agency's effectiveness, the JCA had made measurable strides. The study concluded that the construction program was making more rapid progress than it had earlier under the Army or Air Force independently, and that operations were more efficient and economical.[30]

The JCA gained ground in processing the requests to build, but putting construction into the ground remained far behind schedule during the agency's first year. By the end of February 1954 the agency could claim construction starts on less than 15 percent of the jobs forecast just three months earlier.[31]

The agency did make headway in handling the bureaucratic aspects associated with its mission, especially in developing effective working relations with French agencies. The staff persuaded the French that the urgency of construction necessitated waiving or modifying standard administrative procedures. At the JCA's request the *Service de l'Infrastructure* suspended normal administrative procedures on work for seven air bases in France, one of which was in Dreux (about twenty miles north-northwest of Chartres), where an Air Force unit was scheduled to arrive in the autumn of 1954. Streamlining procedures allowed construction to begin two months early, a critical saving that permitted the JCA to take full advantage of the summer construction season.[32]

One incident illustrates how cooperation led to mutual benefit. In November 1953 the commander of the French VI Military Region, General Kauffeisen, encountered a chronic problem: He was seriously understaffed, especially considering the U.S. Army construction scheduled for the Northeast District. In a letter to Brig. Gen. W. W. Ford, commander of COMZ's Advance Section, Kauffeisen estimated that he would need additional six or eight well-qualified engineer officers to carry out the planned program. He informed General Ford that he had initiated a request for these additional engineers through his own chain of command, but suggested that a "tactful representation" of the situation from the commanding general of COMZ to the chief of the French Liaison Mission might add

weight to his request. Ford contacted his commander, who passed the notice on to the JCA commander, General Nold.

Nold then wrote to the French army officer who directed the *Génie* to convey that almost $28 million of military construction was scheduled for the JCA's Northeast District in 1954, all of which would be administered by the *Génie* of Region VI under General Kauffeisen. Nold diplomatically attributed to the JCA's Northeast District Engineer—rather than to General Kauffeisen himself—the expression of concern about the adequacy of the French staff in the Region VI office. Did the office have sufficient staff to administer so large a construction program? Nold then asked the director of *Génie* to "inquire into the question of augmenting the present staff in Region VI with the additional engineering and administrative personnel to insure [*sic*] the successful and expeditious completion of these facilities."[33]

The director the *Génie* thanked Nold for his observations and for the information on the magnitude of the construction program contemplated for the region. He assured Nold that the necessary provisions had been made to secure adequate civilian and military personnel to expedite the program that the JCA had outlined for the area. General Kauffeisen got the additional engineers he needed, and the work went forward.

The establishment of personal contacts at the highest levels of the French civilian and military bureaucracies constituted one of the major tasks of the JCA. Those personal contacts helped the agency reduce construction lead-time from the twenty-one months prevailing in early 1953 to fifteen months by mid-1954. By 1 September 1954, for the first time in its operating history, the JCA enjoyed a thoroughly healthy situation, with a backlog of work under contract and an established flow of design completions and requests for bids on design under way. Over the next two years, the JCA reduced lead-time for construction projects to thirteen months. Given the environment, this compared favorably with the nine-and-a-half months of lead-time for construction projects in the United States.[34]

Personnel Recruitment

Although the JCA's structure called for about 600 people, the organization began with just over 220 employees. This nucleus came from the Communications Zone's construction districts, the Engineer Division at COMZ headquarters, and the Air Force construction organization in Europe.[35] Recruitment became more difficult when, between January and April 1953, the Department of the Army froze all construction while it conducted an "essentiality review."[36] To fill positions, the JCA had to rely on COMZ staff that handled personnel in France through district offices. This meant that each JCA district engineer depended on the local COMZ personnel office to provide candidates for positions. Little exchange of information on available positions throughout France took place among the local offices, so hiring depended on who happened into any particular COMZ district personnel office.[37] Not only could the JCA not recruit

its own personnel, but its staff had very little direct contact with COMZ's personnel office. It took as long as seven months to process an appointee for a specific job.[38]

The JCA's recruitment suffered because government pay was relatively unattractive in 1953, while demand for professional engineers was high in the United States. The agency's experience with the employees of Construction Management and Engineering Associates (CMEA), an association of private contractors and construction management engineers, illustrates its competitive disadvantage. The CMEA had contracted in 1952 to manage Air Force construction in France.[39] With the creation of the JCA, the CMEA's personnel faced unemployment when the contract expired in September 1953. The JCA saw these employees as a potential pool of professionals and mounted a vigorous recruiting campaign, hoping to attract half of the 196 CMEA employees facing layoff. Barely 10 percent even considered joining the JCA. Most of the CMEA's positions were in Paris, but the JCA needed staff in its district offices, far from the attractions of the French capital. By their own admission, many who joined the JCA did so to obtain an income tax exemption for overseas employment.[40]

The JCA had greater success attracting professionals who already had experience working for U.S. forces in Europe. Edward Zawisza, who had fought in the war and then worked in the military government in Germany, joined the JCA in 1953. Over the next eight years he held a variety of positions with the JCA and its successors in France, assigned first to Bordeaux, then to the Chinon Engineer Depot project, then as resident engineer in Poitiers and as area engineer in La Rochelle. When construction in France slowed down, Zawisza relocated to Germany, where he continued working with the Army engineers into the 1980s.[41] Saul Fraint had worked in Austria and in Italy; his assignments for the JCA included the Northeast District headquarters in Nancy, the North District, and the headquarters office in Paris.[42]

By the end of June 1953, the JCA had managed to put together a staff of between 750 and 800 employees, but even these numbers were insufficient.[43] The JCA's personnel authorization increased, and by the end of 1953 it had filled just over 1,000 positions. Its personnel included 105 officers from the three services, 424 Department of the Army civilians (DACs), 478 French employees, and 3 third-country (non-American and non-French) personnel. In general, these proportions continued until the end of 1956 when, in anticipation of the agency's approaching dissolution, the staff began to leave.[44]

Dependent Housing

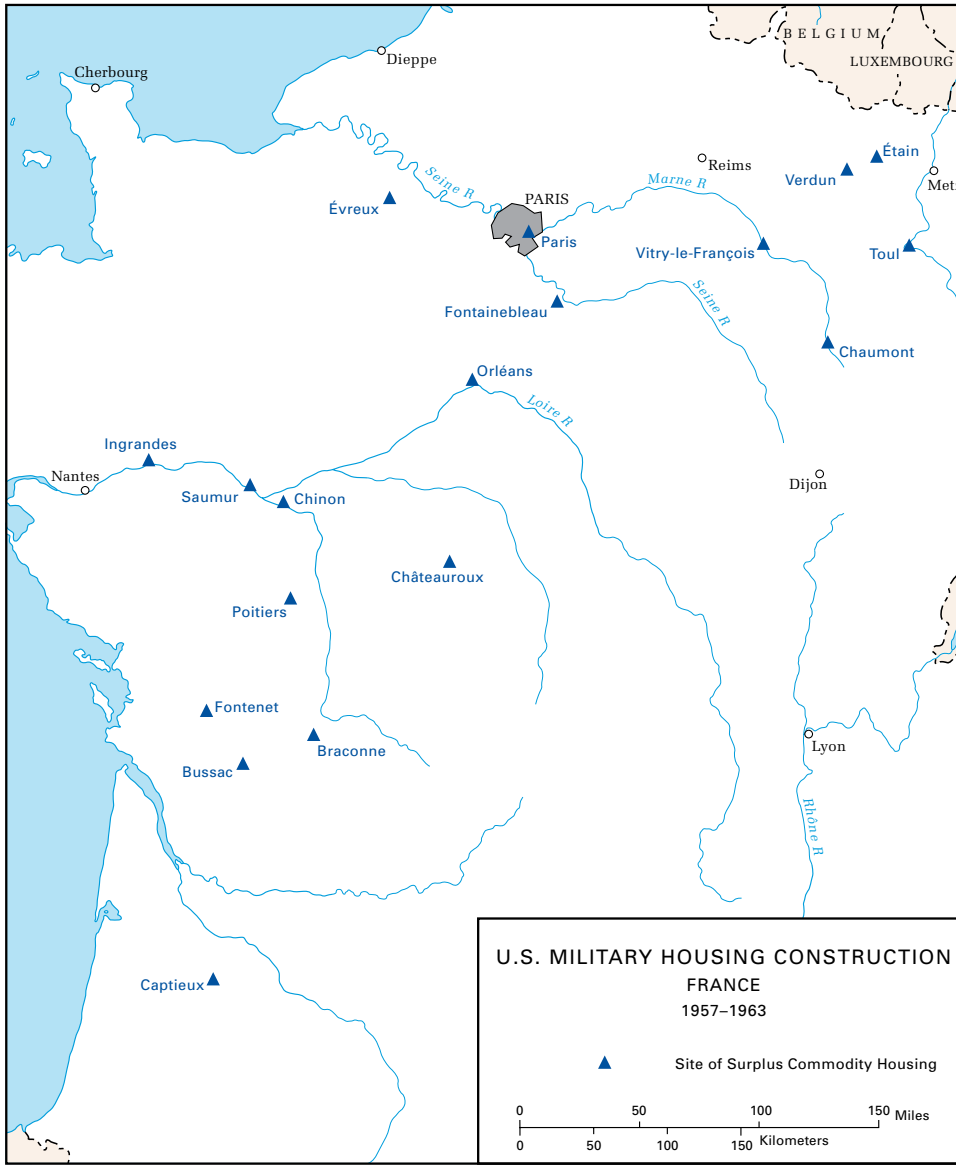
From the beginning of the buildup of American troop strength in France in 1950, finding adequate housing for military dependents had proved difficult. In 1952 Congress authorized contracts for housing with French construction firms, guaranteeing the builder 95 percent occupancy for five years. The first contracts were awarded for 300 family housing

units to be built in Orléans beginning in mid-1953. No additional housing contracts were awarded until December 1954, when provisions were made to construct up to 234 duplex houses in Nancy, Poitiers, Metz, Ingrandes, La Rochelle, and Bordeaux. In 1955 an additional 984 units, including 300 at Orléans, were authorized. The housing program, with its guarantee of rental income to the builders, produced unsatisfactory results. The apartments built were very small, maintenance was poor, and rents were high.[45]

New legislation passed by Congress in August 1954 raised the possibility of another solution to the housing problem in France: the creation of rent-free housing financed by the sale of surplus commodity products on the international market. In September 1955 USEUCOM received orders to stop awarding contracts under the rental guarantee program and to begin building "surplus-commodity housing." The new program involved a complicated series of interactions among independent agencies. The U.S. government accumulated surplus agricultural products as a result of its programs to support American farmers. The Commodity Credit Corporation, which handled these surpluses, made them available to a specially selected commodity trading company. The trader then sold the commodities on the international market through a complex bureaucratic process, and money from the sales became available to finance housing for military dependents.

To begin work on houses in France, the JCA contracting officer issued a certificate to a participating builder indicating an amount of money to be paid to him in dollars or French francs. The builder in turn submitted the certificate to the commodity dealer, who paid the contractor from the proceeds of the international sale of the commodities. The American military personnel who occupied the new housing lived in the facilities rent-free instead of receiving a housing allowance. Money they would have received for housing went directly to cover the cost of utilities and maintenance and to repay the Commodity Credit Corporation for the commodities delivered to the dealer.[46]

Surplus commodity housing provided a slow answer to the urgent need for housing in France. Negotiations between the U.S. military and the French over the arrangement lagged. Initial sales of surplus commodities produced limited funds for construction. Both factors delayed the JCA's invitation for construction bids under the program. In July 1956 the JCA's North District solicited bids and received four viable responses. Negotiations with the bidders lasted until May 1957, when a consortium of the French construction firm *Compagnie Immobilière Marc Rainaut* and the commodity firm of Bunge Corporation in New York signed a contract to proceed with the housing. By the time the contracts were in operation, the JCA had ceased to exist and management of the construction fell to its successor organization, the U.S. Army Construction Agency, France. In total the surplus commodity program financed about 3,000 housing units in a score of French communities between 1957 and the early 1960s.[47] (*See Map 10.*)



Map 10

Securing the Line of Communications across France

While the JCA struggled to bring the construction under control, American leaders reevaluated strategic policy for the supply of U.S. troops. The development of a supply line across France provided an alternative to the line in Germany south from Bremerhaven. In August 1952 the Department of the Army had asked USAREUR whether shipments

through the Port of Bremerhaven could be reduced to make the French line the exclusive line of communications and supply. After an evaluation that lasted more than a year, the department adopted a recommendation calling for a shift of all supply to the line of communications across France. USAREUR's plan, worked out in detail by March 1954, required additional construction in France and considerable augmentation in support personnel. The plan assigned top priority to preparing logistical support procedures and war plans; completing the pipeline for petroleum products; making depots operational; and developing the ports, communications networks, and command facilities necessary to sustain the military in the field. The goal was to provide USAREUR with 70 percent of its supplies through French ports by the end of 1957.[48]

This plan put additional pressure on the JCA to expedite construction, but Washington suddenly imposed another freeze on construction. On 14 September 1954 the JCA received orders from the secretary of defense that, other than honoring previous commitments, all contracting activity was to cease as of 28 September.[49] General Nold protested vigorously, predicting serious negative consequences for the construction program, which had a total anticipated value of $31 million. About $800,000 had already been spent on completed design for projects along the line of communications, and the JCA was poised to let contracts for construction. Design had required intensive and wide-ranging coordination with French government agencies, and their staffs had been augmented in anticipation of the coming construction load. Postponement would mean that these agencies would lose personnel again. Nold predicted that American military construction would suffer long after the freeze was lifted. The protest had no apparent effect; the freeze remained in effect until January 1955.[50]

The $60 million pipeline for petroleum products and fuel (petroleum, oil, and lubricants) was the JCA's single most expensive project in France. The pipeline ran from Donges and Saint-Nazaire, north of the Loire River's mouth, to Metz, a city near the German border just eighty miles west of the Rhine. When finished, the pipeline extended from the Atlantic across northern France for almost 400 miles and linked up with a similar pipeline into western Germany. In June 1953, after roughly two years of negotiations, France accepted both governmental and technical agreements covering the construction, operation, and maintenance of a pipeline, controlled by the United States, across the French countryside.[51] Work began on the Donges-Metz pipeline in May 1954. The French showed a willingness to adjust to urgent demands when they allowed construction to begin completely at the contractor's expense and with only the assurance from the French administrative officers that formal contracts would follow. About one-sixth of the segment between Donges and Melun was laid before any papers formally cleared French ministries.[52]

Building the pipeline was a complex undertaking, involving facilities for offshore unloading, pumping stations, and storage tank installations at intervals across France. The line itself consisted of ten- and twelve-inch pipe

(valued at more than $6.8 million) at a depth of 2.5 feet below ground and protected under roadways by steel sleeves. An undersea segment connected the off-shore unloading operation to land; and eight booster pumping stations moved petroleum products through the line under pressure of a maximum 1,250 pounds per square inch, providing a capacity of 2,450 gallons of gasoline a minute. The pump houses were blast- and splinter-resistant and spaced at about forty-mile intervals. The system included storage tank facilities with a capacity exceeding 5 million barrels. The tanks at each storage farm had to be dispersed and positioned to minimize destruction by an attack using either atomic or conventional bombs. Forward area tank farms were partially buried for added protection.[53]

The construction freeze of late 1954 hindered progress, but by mid-1957 the JCA had completed the work and the pipeline began operating. In September 1957, by agreement with NATO, a linking of pipelines allowed USAREUR to transport fuel from the Atlantic across France into Germany and even to units east of the Rhine.[54] With this line the U.S. military could transport fuel equal to the capacity of 6,000 railroad tank cars from the Atlantic to West Germany in twenty-four hours.[55]

The JCA also supervised a $60 million program to construct medical facilities for both the Army and the Air Force. In fact, the JCA inherited the hospital program from the Communications Zone, which had been unable to complete it. Construction for the line of communications across France included a requirement for 15,000 fixed hospital beds as essential to support U.S. forces in Europe in the event of an armed conflict. To meet this requirement, USEUCOM requested funds for standby hospital facilities that could be used as troop billets in time of peace and converted within forty-eight hours into fully operational field hospitals. Because funds for troop barracks were more limited than for medical facilities, the plan had the obvious advantage of putting readily available money to use for less easily fundable facilities.[56]

The plan had less noticeable disadvantages that became factors in retarding the development of adequate billets for the American soldiers assigned to France. The hospital housing program conflicted with the appropriate placement of housing facilities for the troops. The majority of troops were concentrated in twenty or more widely dispersed locations throughout France, whereas hospital space had to be concentrated away from military targets in locations not related to other operating facilities. This put one-third of the housing spaces in the wrong place and made the establishment of a coherent troop housing program a difficult problem. Moreover, the technical requirements associated with hospital design subjected the program to repeated delays, which under the dual-purpose plan also delayed completion of troop housing. The French also had very definite issues of their own, including the desirability of locating the U.S. military hospitals in places that gave them long-range value to the French economy and medical services. Additionally, duplication of Army and Air Force hospital programs provoked skeptical reviews in Washington and prompted two suspensions of all work on the hospital/housing construc-

tion during 1952. Finally, Congress delayed fiscal year 1953 funds for the construction until it had reviewed all details of the plan for their dual utilization. These delaying factors were a primary cause in leaving fully 30 percent of the troops assigned to the Communications Zone in tents during the winter of 1952–1953.[57]

The JCA received the directive to construct dual-purpose hospitals in March 1953, but it took until October to clear the way for the award of design contracts. Construction began in 1954 after the JCA awarded several multimillion-dollar contracts for the work. The Army program projected eleven military hospitals and three medical depots at intervals between the Atlantic and Germany's western frontier. (A twelfth hospital, in the Paris area, was cancelled in 1956.) By July 1957 about 40 percent of the planned construction for the hospital program was completed, and by 1958 six of the eleven hospitals were in use.[58]

The overall pace of construction under the JCA's direction intensified late in 1955 because of political decisions in Washington. In July Congress, reacting against the accumulation of unspent money committed to the buildup of forces for NATO, passed Public Law 161 rescinding all authorizations for any construction approved before 1 October 1951 unless funds for these projects were obligated before 1 July 1956. In other words, if the U.S. military planners could not commit the money after nearly five years, they would lose it. The JCA had a substantial backlog of projects for which it stood to lose funding if it could not push them through the process of approval and contracting before the deadline. Approval, however, depended on the French.

The JCA's director, General Robinson, met with the French Liaison Mission on 22 December 1955 to explain the implications of the new legislation. He presented a list of critical items with estimates of when architect-engineer plans and specifications could be ready. He asked the French whether they would take special steps to shorten the time involved in their normal review of these projects. The French agreed to cooperate fully, offered suggestions on how to accomplish the goal, and worked out a set of procedures to expedite the processing. As a result of this exemplary cooperation, the JCA was able to let work contracts for $29.5 million between 1 January and 30 June 1956; only $1.3 million in project funds was not obligated before the automatic cutoff imposed by Congress.

By the summer of 1956 the JCA was spending $8 million a month on construction for the Army and Air Force in France. The backlog of designed work waiting for award of construction contracts had been reduced from $73 million on 1 July 1955 to just $18 million a year later. The monies obligated for the fiscal year ending 30 June 1956 were the highest in the JCA's history; and the amount for June, just over $60 million, exceeded that of any earlier month. In a letter to the U.S. ambassador in Paris, Robinson praised "the extraordinary efforts on the part of the French Services to assist the Joint Construction Agency" in completing the contracts before the deadline.[59]

In late 1956, events beyond the JCA's control damaged this spirit of cooperation and the momentum it engendered in the construction program in France. The United States vigorously opposed the incursion into the Suez Canal Zone by French and British military forces in early November 1956. When the United States embargoed oil shipments to France to exert pressure on France to withdraw from the Canal Zone, the French government responded in kind, cutting off petroleum for U.S. military construction projects. The American engineers made emergency arrangements so that French contractors working on other projects could receive fuel from local U.S. military sources. The French government then established its own system of fuel rationing. Fortunately, delays on the most important projects turned out to be minimal.[60]

Joint Construction Agency outside France

The Department of Defense had planned for the Joint Construction Agency to manage military construction in areas outside France. Although nearly consumed with the construction program in France, the JCA began developing plans in March 1953 to undertake work in Austria, Italy, Greece, and Turkey.[61]

The Engineer Division of the United States Forces, Austria (USFA), had directed construction in Austria and Italy immediately after the war. When the Berlin Blockade prompted the United States to redistribute its troops to reduce the numbers in Vienna, USFA constructed housing and rehabilitated facilities such as Bindermichl. (*See Chapter* 2.) As work in Bindermichl approached completion, USFA undertook another major project to build a regiment-size camp in the U.S. zone. The site, which eventually became Camp Roeder, was initially an empty field outside of Salzburg with neither structures nor utilities, forcing the Army engineers to build the camp from scratch. To manage the estimated $90 million in contract work, USFA established the 7614th Construction Detachment, an organization composed of American officers and enlisted men and more than thirty DACs and civilian Austrian nationals.

In 1951 the command assigned engineer troops to construct roads and electrical lines. It consigned the majority of the construction to Austrian contractors. Over the following years there arose a small military city, initially for 5,500 soldiers, consisting of roads, sewer lines, waterlines and wells, electrical lines, barracks, mess halls, bowling alleys, theaters, clubs, warehouses, and similar facilities. Work on Camp Roeder progressed satisfactorily, but it remained incomplete when the United States turned the facilities over to the Austrian national government in 1955 as Austria regained its sovereignty and the occupying forces of the four wartime Allied powers withdrew from the country.[62]

When the JCA began operations outside of France in 1954, it proposed that construction in both Austria and Italy pass by stages to a district office to be set up in Livorno, Italy. In March 1954 the JCA assumed technical authority over construction for the Army and the Air Force in

Building Camp Roeder involved installing and constructing all utilities, including a sewer system.

Italy and Austria, but the Engineer Division of USFA continued its management functions. In October the United States and Italy signed a new memorandum of understanding to govern U.S. military construction in Italy; in December the JCA opened the Southern District office in Livorno, incorporating much of the existing engineer detachment there into the JCA staff. (*See Chart 4.*) Because construction in Austria was already 90 percent complete and declining rapidly as Austria moved toward full independence, the JCA opened no office there.[63]

The Austrian State Treaty of 15 May 1955 reestablished full Austrian sovereignty and provided for the evacuation of all occupying military forces from the country. To fulfill the terms of this four-power agreement, the Department of Defense decided to move U.S. military forces from Austria to Italy, making rehabilitation of facilities for the troops in Verona and Vicenza necessary. The Army command in Italy, called the Southern European Task Force (SETAF), received an allocation for rehabilitation and a small amount of new construction. USEUCOM directed the JCA to support SETAF by supplying technical assistance.[64] In addition, the JCA monitored a modest amount of work in Italy for other services—five airfield sites for the Air Force and warehousing, maintenance shops, and community facilities in Capodichino and Sigonella for the Navy.[65]

The JCA took over responsibility for construction in Greece and Turkey about the same time it assumed its responsibilities to support SETAF in

Table 2

Workload of the U.S. Engineer Group, Turkey
1955 and 1956

Project	31 December 1955 ($ million)	31 December 1956 ($ million)
Design	$22.901	$ 16.259
Out for bid	0	2.313
Under construction	13.143	19.960
Completed	16.210	18.631
Inactive	13.409	9.031
Current working estimate	71.696	66.731
Funds available	37.173	44.149

Source: James S. Arrigona and W. R. Karsteter, "USEUCOM Joint Construction Agency, Historical Report, 15 January 1953–31 July 1957," p. 120.

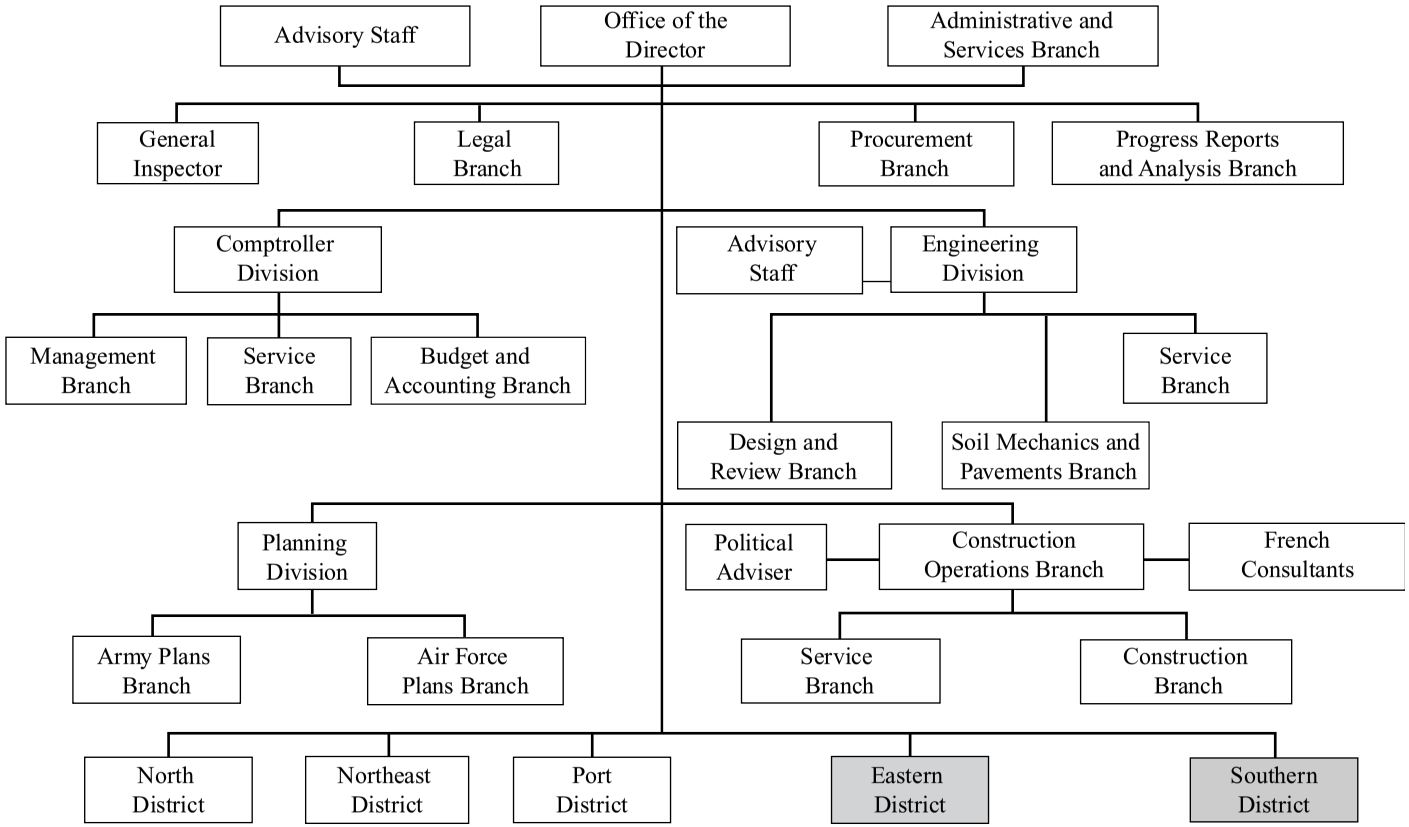
Italy. In February 1954 the agency opened the Eastern District office in Athens to supervise work in Greece and in Turkey (*Chart 4*); by year's end the office had 123 employees. By 1955 the Eastern District had contracts for $52 million in work, of which approximately two-thirds was under construction. (*Table 2*) Future contracts were projected at less than $2 million.[66]

The active projects in the eastern Mediterranean in 1956 included a trailer park, a hospital, a school for dependents, a commissary to support the Iraklion airfield on the Greek island of Crete, and additional work for the Athens airfield. The office in Greece also managed the programs that had been set in motion by The United States Engineer Group (TUSEG) in Turkey in 1950. With the reorganizations, TUSEG's staff came under the authority of the JCA and its work in progress, involving almost exclusively programs for the Air Force, continued much as before. In all, twenty-two separate projects remained active in Turkey in December 1956, including communications facilities, personnel support facilities, and a variety of other small undertakings.[67] Through its management of construction in Greece and Turkey, the JCA supported the American military mission to the very borders of the Soviet Union.

The Phaseout

The JCA succeeded in resolving the confusion that had characterized the early development of the line of communications in France. In

Chart 4: Organization of the Joint Construction Agency, September 1955, Depicting the New Eastern and Southern Districts



Shaded boxes indicate new districts.

early 1953, when the JCA took charge, American soldiers in France still lived in tents and moved about on muddy paths and roads. By 1957 the tents had been replaced by barracks, the roads had been paved, construction in place exceeded a half-billion dollars, and the JCA actively supervised a construction effort that stretched from the Atlantic to the eastern Mediterranean.[68]

By the mid-1950s the American military construction program in Europe had stabilized. In France the JCA had asserted control over what had been a chaotic program. Air Force construction had slowed, and it would all be under contract by 1958. West Germany had been granted sovereignty and admitted to NATO, and Deutschmark funding was scheduled to run out at the end of 1957. In effect, construction for the U.S. forces that flooded into France, Germany, and the European Theater had caught up with immediate needs.

As early as autumn 1955, talk circulated in Washington about reorganizing the Joint Construction Agency. The U.S. forces in Europe no longer needed such a high level of management authority for construction.[69] Strategic realities also had changed. As West German troops augmented NATO forces and tactical nuclear weapons became available, the line of defense moved east from the Rhine to the border with East Germany.[70] It became clear that, with the development of more sophisticated Soviet weaponry, the line of communications across France was vulnerable. Because Soviet air superiority would prevail in the early days of any aggression from the east, the flow of supplies across France, dependent on French railroad lines, could be disrupted and stopped from the air. Stock dispersion also was insufficient to ensure preservation of the materials stored. In any event, it was likely that the Soviets knew where supplies were.[71]

France's objections to the presence or passage of foreign nuclear weapons in, over, or through its territory also threatened the viability of the line of communications. Beginning in late 1955, the French government sought to renegotiate the terms of the agreement for the line of communications to exclude nuclear weapons from its territory. Simultaneously, tactical nuclear weapons took on increasing importance in NATO's strategic planning.[72] Moreover, the Suez crisis of late 1956 had amply demonstrated that American and French national interests did not always run parallel. The intense clash of interests over Suez reinforced the traditional French tendency to maintain an independent military posture.

Economic considerations also modified thinking about logistics. Supplying U.S. forces in Germany through France cost substantially more than through a North Sea port. In 1956 the United States made temporary arrangements with the government of the Netherlands to open a port facility in Rotterdam. From there, shipments could be made south at considerable savings by using the Rhine. The United States replaced this temporary arrangement with a permanent agreement in March 1957. Using port facilities in both Rotterdam and Bremerhaven, military planners revised the expectation that USAREUR would receive 70 percent of its supplies through the line of communications across France. Instead,

they viewed France increasingly as a depot and storage area and as an alternative or emergency supply route. By the end of 1957 only 40 percent of U.S. military supplies—except petroleum products, of which all passed through the Donges-Metz pipeline—came through France. Perhaps equally important to American planning as the availability of alternate port facilities were signs that the Soviet Union had reduced its troop strength.[73]

Adding to this ferment, misgivings resurfaced in the Office of the Chief of Engineers in Washington and at the JCA headquarters about the joint nature of the agency. The assistant chief of engineers for military construction, Maj. Gen. David H. Tulley, believed that the JCA's successes in Europe had come despite its joint nature, not because of it. The Army engineers had responsibility for all military construction in Europe, and Tulley argued that any construction agency executing that work ought to be controlled by the Army engineers; the JCA's joint character should be ended and construction should return to an Army command. In correspondence with the chief of engineers, Lt. Gen. Samuel D. Sturgis, General Nold (recently retired) argued that the JCA, which he had commanded between 1953 and 1955, "got along during my time primarily through your generosity in loans of personnel and your extraordinary aid in recruitment of all categories." Nold concluded, "This situation cannot continue indefinitely." Parallel recommendations that the agency be reorganized circulated during 1956 among the JCA staff, although they were never forwarded to higher levels of command.[74]

Given the progress made in constructing facilities for the Air Force and the Army in France, the sharp decline anticipated for construction budgets in the late years of the decade, and changes in the economic, diplomatic, and strategic situations, the dissolution of the JCA appeared likely. During the first quarter of 1956, the JCA consolidated its Southern and Eastern Districts into a single unit headquartered in Athens, Greece. Before the end of 1956 further consolidation left the Southern District, now in Livorno, Italy, as the only JCA office in the area. These moves eliminated eighty-seven positions and saved about $388,600 in salaries, allowances, and overhead costs. On 1 November 1956, the agency consolidated its three district offices within France into the North District, with offices located with the JCA headquarters near Paris. This move further reduced manpower by 199 spaces at an estimated annual savings approaching $1.1 million.[75]

On 1 August 1957, the Joint Construction Agency was abolished. Responsibility for military construction in Italy, Greece, and Turkey passed to the Mediterranean Division under the Office of the Chief of Engineers in Washington. Responsibility for military construction in France passed to the United States Construction Agency, France (USACAF), a new agency under USAREUR constituted from the JCA's North District. Col. Lynn C. Barnes, who had commanded the North District under the JCA, was named as the first director of USACAF.[76]

Construction for the U.S. military continued in France for several years, but at a greatly reduced rate. In 1958 USACAF awarded $24 mil-

lion in contracts. The surplus commodity housing program that had been planned and contracted under the JCA accounted for a substantial part of USACAF's activity. In addition, USACAF supervised the construction of Class V depots, designed for the storage of atomic weapons. By late 1961 USACAF's work was so reduced that its staff had decreased from 530 to 80. On 1 October 1961, USACAF was redesignated as the U.S. Army Field Engineer Office, France, to handle administrative matters such as claims and recoupment of funds arising from the earlier programs. Construction that needed to be done came under the purview of the Army engineers of the Communications Zone.[77]

The U.S. Army engineers adjusted their definition of Europe in 1957 to correspond to the reorganization of engineer assets. For construction purposes, Italy, Greece, and Turkey came under the purview of the Mediterranean Division of the U.S. Army Corps of Engineers when the division relocated from Morocco to Livorno. The chief of engineers in Washington had direct command authority over the Mediterranean Division. The Communications Zone in France controlled construction in France through USACAF. The commander in chief of USAREUR exercised command authority over the Engineer Division of his logistics office and in 1956 created a distinct engineer organization, the U.S. Army Construction Agency, Germany, to supervise construction throughout that country. It is through this agency and its successors under USAREUR that the story of the management of U.S. military construction in the newly defined Europe continues.