

To Save a City

The Berlin Airlift
1948-1949

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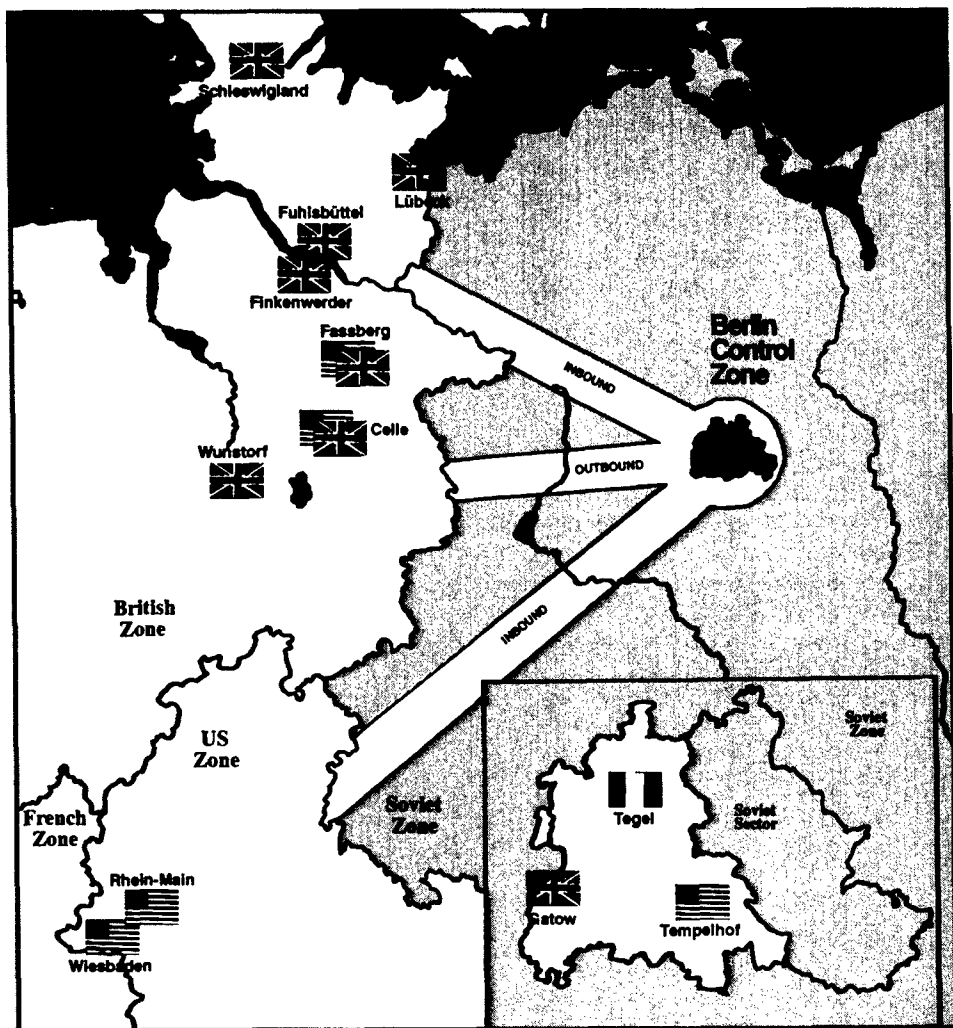
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To Save a City: The Berlin Airlift, 1948-1949

The Berlin Crisis of 1948 had its origins in the dark mind of Joseph Stalin. Plans to interfere with Western access to Berlin were already hatched and harassment had begun by March 19, 1948, when the dictator met with German leaders of the Soviet-controlled Party of Socialist German Unity (SED). During the subsequent discussion, German communist leader Wilhelm Pieck warned that the elections scheduled for Berlin in October threatened a disaster for the SED. But, he argued, that humiliation could be prevented if, somehow, the Western powers could be removed from the city.

"Let's make a joint effort," Stalin replied, "perhaps we can kick them out."¹

Germany in Defeat

The war Adolf Hitler had begun in 1939 ended in May 1945 with the almost total destruction of Germany and its occupation by the victorious Allied powers—the United States, Great Britain, and the Union of Soviet Socialist Republics. The Allies of the "Grand Alliance" had laid the foundations of the peace during a series of wartime conferences between President Franklin D. Roosevelt, Prime Minister Winston Churchill, and First Secretary of the Communist Party Joseph Stalin. Roosevelt and Churchill first addressed the question of Germany with the acceptance of Roosevelt's controversial demand for unconditional surrender. At Teheran in December 1943, the "Big Three" discussed partitioning Germany into several smaller states, an idea ultimately abandoned because it threatened to sow the seeds for a rebirth of German nationalism.²

The most important meetings were held at Yalta in February and Potsdam in July 1945. The Allies agreed that their occupation forces would reshape Germany. The German army would be disbanded; its arms industry eliminated; the Nazi party and all aspects of Nazi influence on government, law, culture, and daily life destroyed; and war criminals punished. Economically, the emphasis would be on developing agriculture and peace-related industries. Germany would be administered as a single economic unit and controls introduced to ensure an appropriate distribution of resources throughout the zones. Reparations would be exacted for the horrors inflicted by the Nazi war machine, but enough would be left for the German people to survive on without outside assistance. The occupation would continue until all reforms had been completed, a satisfactory constitution written, and supervised elections held.³

During the war, the Allies had agreed to divide Germany into three occupation zones. The Soviet zone occupied the eastern third of the nation, while

the British and Americans divided the western portion of the nation, with the British zone in the north and the American zone in the south. A zone for France was eventually carved out of the American and British zones. The Soviet zone, under normal conditions, produced much of Germany's food; the British zone was heavily industrialized and had to import food in the best of times; the American zone also produced insufficient food for its population. A contemporary saying opined that "the Russians received the agriculture, the British the heavy industry, and the Americans the scenery."⁴ The Allies also agreed to operate the occupation from Germany's capital, Berlin, which lay over one hundred miles inside the Soviet Zone of Occupation. In the same way, the Allies divided Berlin into what were termed sectors administered by the military forces of the four powers. The decision to establish sectors for the Western nations deep inside the Soviet zone of occupation provided the setting for the Berlin Crisis of 1948.

Another development exacerbated the economic situation for the Allies. As the Red Army advanced across Eastern Europe, Stalin unilaterally moved the Russian-Polish border westward, and then compensated Poland by moving its border with Germany fifty miles to the west, giving the Poles about a quarter of Germany's most fertile land and displacing several million Germans, most of whom ended up in the Western zones.⁵ This step seemed to be done with sinister purpose. In Churchill's words, "the Russians, pushing the Poles in front of them, wended on, driving the Germans before them and depopulating large areas of Germany, whose food supplies they seized, while chasing a multitude of mouths into the overcrowded British and American zones."⁶ At Potsdam, Churchill tried to make the point that Poland and Russia were getting the food and fuel—in the form of Silesian coal—from a prostrate Germany, while the British and Americans were getting the mouths that had to be fed. Stalin refused to concede the point, however, and there was little the Western leaders could do but acquiesce.⁷ Ultimately, both Great Britain and the United States would have to import food at tremendous expense to feed the Germans in their zones of occupation.

The four military commanders-in-chief, General of the Army Dwight D. Eisenhower, Field Marshal Sir Bernard L. Montgomery, Marshal Georgi Zhukov, and Gen. Jean de Lattre de Tassigny, met in Berlin on June 5, 1945, to sign the formal "Declaration Regarding the Defeat of Germany and the Assumption of Supreme Authority" and to proclaim the protocols on zonal boundaries and the Allied Control Council. The movement of Allied military forces into their occupation zones and the garrison troops into Berlin was completed on July 4, 1945, and the Allied Control Council held its first meeting on July 30. Comprised of the military governors of Germany and located in the American sector of Berlin, the Allied Control Council was the four-power agency that would govern occupied Germany.⁸ It does not get too far ahead to note that Gen. Lucius D. Clay, Gen. Sir Brian Robertson, Marshal Vassily D. Sokolovsky, and Gen. Pierre Joseph Koenig were the military governors for Germany during the Berlin Crisis in 1948.

Berlin

Like the rest of Germany, Berlin had suffered enormous damage. In May 1945, 2.8 million people remained in the city, down from a prewar population of 4.6 million. Of the prewar work force, only 28.5 percent remained. The medical profession had been especially hard hit, with only 2,400 of the 6,500 prewar doctors remaining. Housing space had been seriously reduced. Some 70 percent had been damaged, but could still provide shelter, and an additional 10 percent was reparable; but 20 percent had been demolished. Bomb damage had been concentrated within the city center, where 70 percent of the area had been completely devastated. Only 43 percent of the work places in Berlin survived. Hospital beds had been reduced from 33,000 to 8,500. None of Berlin's eighty-seven sewer systems functioned, so diseases like typhus and dysentery spread quickly, a situation exacerbated by the shortage of physicians. The Allies had rendered Berlin's drinking water system unusable. The food system was also critical. Berlin could produce only 2 percent of that necessary. Only the importation of food from the Soviet zone of occupation prevented starvation. The Soviet Union refused to allow Western troops into Berlin for two months following the city's surrender on May 7, 1945. During those eight weeks, Berlin and the Berliners were subjected to brutal treatment at the hands of the Soviet army.⁹ "It was like a city of the dead," General Clay observed soon after the war. "I must confess that my exultation in victory was diminished as I witnessed this degradation of man."¹⁰

In the confusion of ending the war, negotiating the shape of postwar Europe, and establishing the occupation, Allied planners overlooked a significant detail: no formal agreement guaranteed Western access by surface transportation. Opportunities to negotiate access had presented themselves between 1944 and 1946, but other subjects had taken priority. It was variously assumed that the presence of the Western garrisons guaranteed access; that the West could always get along with the Soviets and thus there was no reason for written guarantees; or that the occupation would end within a reasonable time, making the subject irrelevant. In 1948, Soviet harassment would set off a scramble in Washington for a copy of a written guarantee of Allied access to Berlin, but none existed. The lack of a formal agreement enabled the Soviets to claim that the Allies were in Berlin only with the special permission of the Soviet Union, not because of their rights as victors, and that this special permission could be withdrawn.¹¹

Air routes were another matter. In 1945, concerns about air safety led to a written guarantee signed by all participating nations. The number of flights in and out of Berlin had increased dramatically after the war. With airplanes from three nations involved and much flying done at night or under conditions of reduced visibility, the need for some kind of standard rules and flight patterns in the air routes was readily apparent. In late 1945, the Aviation Committee of the Allied Control Council proposed the establishment of six twenty-mile-wide corridors between Berlin and the cities of Hamburg, Hanover

(Bückeburg), Frankfurt, Warsaw, Prague, and Copenhagen. During subsequent negotiations, the Soviet Union argued that only three, those with Hamburg, Bückeburg, and Frankfurt, were actually necessary. The Allies approved an agreement defining these corridors on November 30, 1945.¹² The agreement failed to provide complete freedom for Allied aircraft. Limitations still applied to altitudes and Soviet aircraft engaged in military activities often flew through the corridors. And the agreement ultimately would not prevent the Soviets from attempting to control Western aircraft operating in the corridors under the guise of "safety considerations." But the presence of the three corridors, guaranteed in writing, was unarguable, and would make the Berlin Airlift possible.

Breakdown

The wartime illusion that the United States could work with a friendly Soviet Union died a relatively quick and probably inevitable death in the post-war period. Roosevelt had introduced Stalin to the American people as "Uncle Joe," putting a kindly face on the brutal dictator for public consumption during the war. Sometime after 1945, however, Stalin ceased to be the amiable, stouthearted, pipe-smoking friend of World War II propaganda and emerged instead as the dictator he was, and the principal threat to peace in the world. Further, the motives that drove each nation in the postwar era were mutually exclusive and the victorious allies were destined to clash.

American leaders expected to maintain a short-term military and political presence in Europe after the war, a presence that would ensure the reconstruction of a stable Europe. Initially, much hope was placed in being able to reach consensus with the Soviet Union. However, even before Potsdam, the administration of President Harry Truman had recognized the Soviet Union as a potential threat, and had begun operating on the premise that a stable, confident Europe would serve as a "third force" between the United States and the Soviet Union. As Britain, France, and the other nations recovered, they would jointly "redress the balance of power" and constrain the Soviet Union. It is important to remember that it is impossible to separate the apprehensions of American leaders about Soviet actions in Eastern Europe from their apprehension about stability and democracy in Western Europe. The chief fear between 1946 and 1948 was not Soviet invasion of Europe, but the strength of communist parties in France and Italy, and their ability to take advantage of economic hardship.¹³

Additionally, it gradually became apparent that Germany had to play a major role in a stable Europe. During World War II, Secretary of the Treasury Henry Morgenthau had proposed eliminating German industry and "pastoralizing" the country's economy. Approved in September 1944, the U.S. Joint Chiefs of Staff paper governing American occupation policies, JCS 1067, embodied the essence of the Morgenthau Plan and envisioned restricting the German economy to the bare minimum required to satisfy the population's immediate needs. This directive proved impractical and American policy shift-



"The courtly Southerner." Gen. Lucius D. Clay, Commander of the Office of Military Government, United States, and Military Governor of Germany on the left, meets with Brig. Gen. Frank L. Howley, the American Commandant in Berlin. (*Brig. Gen. Frank L. Howley Collection, Courtesy, U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.*)

ed gradually to a belief that a strong, stable, democratic Germany would make a good partner and ally in central Europe. JCS 1779, directing more liberal occupation policies, replaced JCS 1067 in July 1947. As the American military governor in Germany, Gen. Lucius D. Clay, was a primary instrument in this policy change. A courtly Southerner from a distinguished family, Clay was a brilliant military administrator noted for his refined manners, incisive mind, and formidable will.¹⁴ Clay would be instrumental in establishing the position of the United States in postwar Europe, determining the shape of western German democracy, and drawing the line on Soviet expansionism, a line that would begin in Berlin.

Soviet policy in Germany and Eastern Europe was largely shaped by that nation's experiences in World War II. First, Stalin wanted to establish a protective belt of pro-Soviet nations on the western border of the Soviet Union. Second, he wanted to prevent the rise of a strong, unified Germany outside his control, a policy that he shared with France. These goals were evident as early as October 1944, when he and Winston Churchill tried their hand at dividing up postwar Europe. Stalin demanded that Poland, Czechoslovakia, and Hungary form a belt of "independent, anti-Nazi, pro-Russian states." He wanted Germany broken up and the great industrial areas of the Ruhr and Saar placed under international control.¹⁵ Subsequent developments recognized the

impracticality of many of these proposals, but Stalin's plans for a buffer zone of states and a weakened Germany under Soviet control remained.

A third, and more immediate, Soviet goal was to make Germany pay for the horrors the German army had inflicted in the Soviet Union. Stalin demanded \$10 billion in direct reparations and sought access to the coal fields in the Ruhr. He wanted to acquire German scientific and technological knowledge and deny this knowledge to the West; to seize military and industrial assets; and to eliminate the prosperity, power and position of the German ruling classes who, the Soviets believed, had supported the war. The agreement at Potsdam authorized each nation to seize reparations from its own zone, and the British and Americans allowed Stalin one sixth of surplus production in their zones. The Soviets also systematically stripped those portions of Germany under its control leading to the loss of 3,500 plants and factories, 1,115,000 pieces of equipment, and 2 million industrial jobs. Further demands came later. In late 1946, thousands of German technicians, managers, and skilled personnel were forcibly transferred to the Soviet Union. And women in astounding numbers were raped by the conquerors over a prolonged period of time. Those who resisted were often beaten or murdered. This rape and pillage was not limited to the immediate aftermath of the Soviet invasion. Had it been, Soviet actions might have been understandable given the terrible destruction visited on the Soviet Union by the Nazi armies. But it continued in Soviet-controlled areas for many months, and it boded ill, for Stalin's long-range program for Germany.¹⁶

Stalin's long-range goal was a pro-Soviet communist government. As early as June 4, 1945, during a meeting on postwar policies with German communist leaders, Stalin told them that there would be two Germanies. He expected to establish Soviet dominance in the Eastern occupation zone, the dictator told those assembled, then undermine the British position in its zone. When, after a year or two, the United States pulled out of Germany, nothing would stand in the way of a united Germany within the Soviet orbit. The results of the Potsdam conference were extremely promising, Stalin pointed out, since they called for operating Germany as a single economic union that would facilitate Soviet activity. Further, the policies of demilitarization, de-Nazification, and democratization would assist by strengthening those elements that would tend to favor the Soviet Union.¹⁷

Given the way he treated his own people, the Soviet dictator may have failed to realize that to attain this goal he would ultimately need the German people—and their support would be withheld. The Red Army raped as many as one million German women and Soviet reparations removed as much as one third of eastern Germany's industrial capability. The millions of forced refugees, the arrest of German leaders who opposed Soviet policies, and the brutal persecution of Eastern European intellectuals did further irreparable damage to Stalin's postwar plans. All of this made little difference as long as the Soviet policy remained one of retribution. When Stalin altered his policy of retribution in mid-1946 to one of reconciliation, the actions of the Red

Army and the harsh Soviet occupation proved catastrophic. They left the Soviet Military Government a legacy of hatred and distrust that nothing could redeem. Ultimately, little the Soviet occupation leadership could do would convince the Germans that they had a stake in Soviet success or a Soviet-sponsored future.¹⁸

Stalin's policy had another unintended, but important effect. The tremendous destruction during the war, combined with Soviet pillage, left eastern Germany in economic ruin. Further, the Soviets showed at best little interest in rebuilding its zone, and conditions in eastern Germany by 1948, in common with conditions in Eastern Europe, had shown little improvement since the end of the war. In turn, the economic conditions in Eastern Europe and Germany, because they were interdependent, delayed the economic recovery and political stability of Western Europe, one of the major postwar goals of the United States.¹⁹ Historian Chuck Pennacchio has argued that

Moscow's decision to rebuild Russia at the expense of Soviet occupied Germany froze East Germany in a condition of wartime destruction, a situation which weakened the social fabric and alienated the population from the German Communists, associated as they were with the Soviets. The resulting migration of workers to the west and electoral setbacks for the Communist Party of Germany (KPD) heightened the threat of Western economic absorption and unified Germany recovery.²⁰

Ultimately, this situation would force the United States and Great Britain to act. The Berlin Crisis of 1948 can best be understood within the context of a recovery in Western Europe that failed to get off the ground after World War II.

One additional point must be made. It is clear that Stalin feared and respected the power that the United States and the Western allies had amassed. The advent of the U.S. nuclear monopoly dashed his belief that the Soviet Union would emerge from World War II equal to, or stronger, than the Western powers. Further, it ended whatever idea he might have had about dealing with future problems through a partnership with the West. The goal of constructing a secure periphery around the Soviet Union remained. There were limits, however. Stalin refused to face another war and thus was prepared to halt his expansionism in the face of Western resolve. At no point was the Soviet dictator prepared to challenge the Americans or the British when they made their interests clear.²¹

The Marshall Plan and German Unification

Following World War II, Soviet pressure on Turkey over control of the Black Sea straits and apparent support for Greek communists, through Yugoslavia, Bulgaria, and Albania, concerned American officials. Initially, Britain supported the Greek government against the communist insurrection; but in March 1947, British leaders announced that they no longer had the

resources to continue their support. The Truman administration proved willing to fill the void, but limiting its involvement to Greece smacked too much of rescuing British imperialism. Consequently, in his address to Congress on March 12, 1947, President Truman announced "the Truman Doctrine," which held that the United States would aid democracies resisting enslavement by a minority.²²

The winter of 1945-1946 was unusually harsh in Western Europe, exacerbating economic conditions and raising the specter of a political and social instability that could be exploited, many leaders feared, by the Soviet Union. The situation was especially acute in Germany where the people were ill-equipped to meet the added hardship and there was little to suggest that things would improve anytime soon. The German people primarily blamed the Soviets for their suffering, and nowhere was this better reflected than in the local elections held in the fall of 1946, that saw a massive anti-communist protest vote, especially in the Soviet sector of Berlin.²³

By early 1947, prompted by concerns over European recovery, the State Department began looking at Germany from a new perspective. Under the direction of the new Secretary of State, George C. Marshall, "economic unity was felt to be necessary to not only to make Germany self-sustaining, but to help contribute to the recovery of Europe." Foreign affairs specialist George Kennan put the situation into clear perspective: "To talk about the recovery of Europe and to oppose the recovery of Germany is nonsense," he stated. "People can have both or they can have neither." With that link established and the Truman Doctrine announced, Marshall met with his colleagues, Ernest Bevin of Great Britain, Vyacheslav Molotov of the Soviet Union, and Georges Bidault of France, on the Council of Foreign Ministers in Moscow in March 1947.²⁴

Six weeks of negotiations went nowhere. Each participant came away from the meeting with profound suspicions of the others' motives. Profoundly discouraging was Marshall's meeting with Stalin during which the dictator expressed little interest in an immediate solution to the German economic problems. The Americans had concluded by then that for Europe's sake, a solution could not wait. With Europe sinking into economic decline, economic cooperation in Europe was more important and desirable than cooperating with the Soviet Union in Germany.²⁵

The desperate economic plight of Western Europe persuaded Marshall to announce a comprehensive program of American assistance, the European Recovery Act or Marshall Plan, on June 5, 1947. The Marshall Plan, in concert with the Truman Doctrine, marked a fundamental change in American policy toward Europe, driven by deepening concerns over the consolidation of communist power in Eastern Europe, the failure to reach a settlement on Germany's future, and the deepening economic disarray in Western Europe that threatened political stability, especially in France and Italy. The Marshall Plan was open to all who wanted to participate, including the Soviet Union and the countries of Eastern Europe. As American leaders had expected, Stalin

scorned the offer and refused to allow Soviet satellites to participate, because he feared American political and cultural influence and economic penetration. Marshall's announcement appeared, to the Soviets, to be an attempt to use economic assistance to consolidate a West European coalition and to threaten recent Soviet gains in Eastern Europe.²⁶

By early autumn 1947, the Soviets had concluded that the Western powers had settled on a definite goal in Germany. A memorandum on October 3 to Foreign Minister Molotov reported that

Analysis of the materials at our disposal and of steps which were taken by the United States and Great Britain in Germany gives grounds for the conclusion that we are speaking not about a propaganda manoeuvre or political blackmail but about a real threat of political and [economic] dismemberment of Germany and inclusion of West Germany with all its resources in the Western bloc knocked together by the United States.²⁷

This prospect appalled Soviet leadership, and they moved to reverse the process. Directives to the Soviet delegation to the meeting of the Council of Foreign Ministers in London between November 25 and December 15, 1947, stressed the imperative need for a peace treaty with Germany associated with establishment of a "united democratic Germany."²⁸ The meeting, however, broke down over sharp differences over reparations to the Soviet Union, the Soviet demand for a say over the Ruhr, and Molotov's abuse of the other representatives. The conference drove home the significant divisions between the Western allies and the Soviet Union over Germany. As a result, the United States announced the end of reparations to the Soviet Union from the Western zones, and France began to move closer to a united front with the British and Americans. The Council of Foreign Ministers was the final straw in Soviet intransigence, at least as far as Marshall was concerned. Disgusted by Molotov's demands for reparations, the refusal to place the resources of the Soviet zone in a common pool, and the barrage of abuse, insults, and accusations, Marshall finally proposed adjournment. The Council did not meet again until May 1949.²⁹

On February 20, 1948, Secretary Marshall wrote that the Soviets were reshaping Eastern Germany into a totalitarian nation similar to the Soviet satellites in Eastern European countries. He believed that it was now necessary for the Western Powers to integrate the economy of Western Germany with that of Western Europe. Unless this step was taken, Marshall reported, "Western Germany too may be at some time in the future drawn into Eastern orbit with all obvious consequences which [sic] such an eventuality would entail."³⁰ The Secretary went on to say that the United States believed that a divided Germany was undesirable and it had not abandoned hope that a solution to the problems in central Europe would include a united country. However, "it has long been decided, in collaboration with the British Govt [sic], that desire for an undivided Germany cannot be made an excuse for inaction in Western Germany, detrimental to recovery of Western Europe as a

whole." Above all, he continued, the U.S. would work effectively to prevent a united Germany dominated by the Soviet Union. "It would regard such an eventuality as the greatest threat to security of all Western Nations, including the US." Accordingly, it was important to integrate Western Germany into the Western European economy immediately.³¹

The U.S. and Great Britain, joined later by France, moved quickly to establish West Germany and include it in the Western state system. Representatives of the three governments and the Benelux nations—Belgium, the Netherlands, and Luxembourg—met in London between February 23 and March 6, 1948. Despite Soviet threats to ignore any decisions taken, the attendees put the final touches on the economic merger of the Western zones and agreed upon the establishment of a federal system of government for Germany.³²

Threat and Response

The hardening of Western attitudes apparently caught Stalin by surprise, and the aging Soviet dictator initially responded by tightening control over the satellites in Eastern Europe. Foreign Minister Molotov had already announced the formation of the Cominform in September 1947 to strengthen international communism, especially in Eastern Europe. The Cominform leader, Andrei Zhdanov, subsequently began an anti-Western propaganda campaign vilifying Western leaders and called on French and Italian communists to disrupt the economies in their countries and seek the ouster of noncommunists from their governments.³³

No single event shocked the Western powers more than the Soviet *coup d'etat* in Czechoslovakia in February 1948 and the suicide or murder of the Czech patriot, Jan Masaryk. The first forcible communist conquest of a free government, according to historian Walter Millis, placed a new complexion upon the "power, ferocity, and scope of Communist aggression."³⁴ The brutal overthrow of a neutral government came as a shock to the American people. For many, it called back memories of the Nazi betrayal and seizure of Czechoslovakia in 1939, and confirmed views of Stalin's willingness to attain his ends by any means necessary. The event set off a short-term war scare. More important, it swept away the last vestiges of opposition in Congress to the Marshall Plan, and accelerated Western plans to consolidate the occupation zones and form a West German state.³⁵ Unification of the Western zones of occupation meant introducing a single currency that would be outside Soviet control. In response, Stalin "ordered a progressively tightening blockade around the city."³⁶

On March 9, Stalin summoned Marshal Sokolovsky and General V. Semionov, political advisor to the Soviet Military Administration in Germany, for urgent consultations. Stalin rarely took such action and it usually heralded a decision on an important subject or promulgation of a major change in poli-

cy. What took place during the meeting remains unclear, but it seems probable that Stalin communicated his decision to step up the harassment of the Western Allies, to include a blockade of Berlin. On March 12, a secret memorandum to Molotov from an assistant outlined a plan to achieve an Allied policy on Germany favorable to Moscow by "regulating" access to Berlin. Stalin's comment to the German communist leaders, "perhaps we can kick them out," was made exactly one week later. At the Allied Control Council meeting on March 20, Sokolovsky, normally a genial individual, icily demanded to be informed on the activities at the London Conference, then taking place. While this was a reasonable request, Clay and Robertson hedged, unable to reply, they said, because they had not yet heard from their governments.³⁷ Sokolovsky then read a statement condemning the West and walked out, proclaiming "I see no sense in continuing this meeting and declare it adjourned." The Council never met again.³⁸

The April Crisis and the "Little Lift"

On March 25, five days after Sokolovsky walked out of the Allied Control Council, he issued orders restricting Allied military and passenger traffic between the Western zones of occupation and their sectors in Berlin. The Soviet measures began on April 1 with the announcement that no cargo could leave Berlin by rail without permission of the Soviet commander, placing the Soviets in control of Berlin's trade. This measure was later extended to passenger trains. American commanders had provided manifests in the past and the Soviets had accepted these in good faith. Now each train and truck would be inspected by Soviet soldiers before being allowed to cross the Soviet occupation zone. In response, Clay proposed that Soviets not be allowed aboard the trains and that his people be given permission to shoot if necessary. In Washington, Secretary of Defense James Forrestal, Secretary of the Army Kenneth Royall, Secretary of the Air Force Stuart Symington, and the Joint Chiefs of Staff considered Clay's proposal to be an overreaction to the situation, but did authorize him to test the restrictions. Clay despatched a train whose commander refused to allow it to be inspected. The Soviets merely shunted it to a siding where it remained. With no viable options, a humiliated Clay withdrew the train several days later.³⁹

Clay's other response to Soviet interference was more successful. On April 2, he directed the United States Air Forces in Europe (USAFE) and its commander, Lt. Gen. Curtis E. LeMay, to deliver supplies to the military garrisons in Berlin by airplane. In doing so, Clay called upon two legends. The forty-one-year-old LeMay was famous for his exploits as a prewar navigator and World War II bomber commander in both the European and Pacific theaters. Hard-nosed and decisive, LeMay was a forceful leader in the best traditions of the U.S. Air Force. The other legend had wings. After World War II, General Eisenhower cited the Douglas C-47 "Skytrain," along with the bazooka, Jeep, and atom bomb, as one of the four most important weapons in



"The forceful leader." Lt. Gen. Curtis E. LeMay, Commander-in-Chief, United States Air Forces in Europe during the April Crisis, the Little Lift, and the early months of the Berlin Airlift. (*U.S. Air Force.*)

victory. Derived from the prototype DC-3 airliner first flown in 1935, the C-47 was one of the most widely-used aircraft in U.S. Air Force history. Powered by two 1,200 h.p. Pratt & Whitney R-1830-92 engines, the C-47 had a maximum speed of 230 m.p.h.—it cruised at much lower speeds— and carried a maximum payload of three tons. Twenty-five Douglas C-47s of the 61st Troop Carrier Wing at Rhein-Main Air Base quickly began deliveries to Berlin. Douglas Dakotas, the British version of the C-47, assigned to the British Air Forces of Occupation (BAFO) continued to support the British garrison in Berlin, as well.⁴⁰

The "Little Lift" quickly began delivering as much as eighty tons of U.S. Army rations and perishables like fresh milk, eggs, and vegetables daily. USAFE officers established an airlift system quickly. Rhein-Main served as the traffic control point, establishing priorities for shipment based upon requi-

sitions from Berlin. While flight and maintenance crews did some loading and unloading, German civilians did most of the heavy labor at both ends of the operation. A primary problem was the shortage of aircrews, and the overtaxed airmen ate on the run and napped in odd corners when they could find the time. The Little Lift also led to a shift in USAFE operations away from Tempelhof in Berlin to the less vulnerable Rhein-Main. The 53rd Troop Carrier Squadron moved permanently from Tempelhof to Rhein-Main. All but essential maintenance at Tempelhof was also transferred, and most organizational equipment was removed and used to meet critical shortages in other locations.⁴¹

The April crisis foreshadowed the Berlin Blockade and provided USAFE with some valuable lessons. The Little Lift illuminated the need for a single agency in Berlin to screen and assign priorities to all requirements and a central agency in the Western zones to clear all cargo before it was delivered. The U.S. Army's Transportation Corps found it best to operate airhead transportation on a shuttle basis with loaded trailers parked near the flight line, immediately available for loading aircraft. Additionally, the Transportation Corps exercised considerable foresight, briefing a large number of officers on the Little Lift operations and maintaining two truck companies on alert in case of further Soviet interference with ground communications with Berlin. Perhaps most important, the U.S. Army's European Command (EUCOM) made a special effort to increase the reserve stock levels in Berlin over the next few months and to evacuate personnel already due to leave. Coal was given special attention. EUCOM increased rail shipments of coal from 1,451 tons in March to 10,062 tons in April, 10,443 tons in May, and 4,749 tons in June before the Soviets closed the borders. Military supplies shipped to Berlin included 5,929 in May, 6,020 tons in May, and 3,151 tons during the first part of June. And these figures do not show the full story, since two-thirds of the coal delivered to Berlin came by barge. These additional stocks would provide a valuable reserve during the last months of 1948. At the same time, USAFE flew out 212 tons of cargo in April, 337 in May, and 193 in the first part of June. Most of this was furniture and other personal items as EUCOM reduced the number of unnecessary mouths in Berlin.⁴²

Soviet leaders concluded from the April crisis that their actions had worked. "Our control and restrictive measures have dealt a strong blow at the prestige of the Americans and British in Germany," a report to Moscow stated optimistically on April 17. "The German population believe that the Anglo-Americans have retreated before the Russians, and that this testifies to the Russians' strength."⁴³ Additionally, the Little Lift was hardly surprising to the Soviets who were well aware of American capabilities. In March 1948, the chief of the Soviet Occupation Forces in Germany, noted that the Americans were paying special attention to air transportation.⁴⁴ The April 17 report, which took careful note of the Allied airlift effort during the Little Lift, must have been reassuring: "Clay's attempts to create 'an airlift' connecting Berlin with the Western zones have proved futile," the report summarized. "The Americans have admitted that idea would be too expensive."⁴⁵

Such mistaken analysis calls for some comment on Soviet intelligence during the Berlin Crisis. According to the authors of a recent history of CIA and KGB activities in Berlin, Soviet intelligence was uniformly excellent. The KGB had high grade sources in both the French and British governments—and, through the latter, the U.S. government, as well. However, Soviet intelligence was hamstrung by the fact that Stalin's advisors told the dictator only what he wanted to hear. Consequently, Stalin received reports that reinforced his prejudices and confirmed his beliefs and suspicions. Soviet intelligence in 1947 and 1948 repeatedly assured him that the Western powers would abandon Berlin under pressure. Such misleading reports, the authors concluded, while soothing to the dictator and enhancing for careers, "endangered everyone." Undoubtedly, they prolonged the blockade by underestimating Western resolve. Ernest Bevin's resolute comments to the British cabinet affirming that British forces would remain in Berlin at all costs on September 10, 1948, for example, were in Soviet hands almost immediately, and should have convinced Stalin that pressuring the West would never halt the creation of a West German state. Instead, Soviet reports stressed the great differences between the Americans and the British, information Stalin obviously preferred to receive, and which proved misleading.⁴⁶

From such reports, Stalin concluded that pressure on Berlin would force the Western powers to abandon the creation of a separate Germany, detach the German people from Western governments unable to protect them, and enable the Soviet Union to negotiate from a position of strength. If the Western allies refused to bow to the pressure, then the Soviets would force them out of Berlin and make the city part of the Eastern zone. On June 11, the Soviet military government reported that further restrictions would be placed on traffic to give "another jolt" to Western prestige.⁴⁷

One serious warning was embedded within the April crisis that the Soviets did heed. On April 5, near Gatow Airport, a Soviet Yak 3 fighter buzzed a British Viking airliner carrying ten passengers and, on the second pass, hit the Viking head-on. There were no survivors. The Soviets blamed the crash on the British pilot and used the incident to demand further restrictions on Allied air activities in the corridor. The American and British reaction was immediate and unmistakable. Both Clay and Robertson ordered fighter aircraft to escort unarmed transports flying the corridor. Subsequently, Marshal Sokolovsky reversed course, apologized, and assured the Western powers that the Soviets did not intend to interfere with the air corridors.⁴⁸

It is clear that the Soviet plan for the blockade of Berlin called for blockade of the air corridors at some point. An April 17 telegram to Molotov from his military deputy stated that "The plan drawn up, according to your instructions, for restrictive measures to be taken regarding communications between Berlin and the Soviet Union zone with the Western occupation zones is applied from 1 April, except for restrictions from communication by air, which we intend to introduce later."⁴⁹ Tragic as it was, the Viking crash may have warned the Soviets away from that step. The firm, instantaneous Western response

showed the Soviets how dangerous it would be to attempt to close the air corridors. Soviet intelligence reported that Clay had said that he feared the next Soviet step would be to close the air corridors, in which case he would bring in fighters and that "If the Russians wanted to prevent flights of American aircraft through the corridors, they would have to fire on the American machines."⁵⁰ During the coming months, the Soviets would harass aircraft and threaten air traffic. As will be discussed later, the Soviets might easily have halted the airlift by interfering with its communications and radar, but they carefully avoided any step that might call forth an immediate, military response. First, any such an action had to be proactive. It would require shooting down Allied aircraft and risk a shooting war. Second, the incident with the Viking had shown how the Allies would react. Finally, and perhaps most conclusive, the Soviets saw no need to interfere; it was unlikely that an airlift could succeed.⁵¹

Another point must also be emphasized. The traditional view is that the Soviets relaxed restrictions on April 10, ending the April crisis, and the Little Lift ended soon thereafter. This view is incorrect. Clay and LeMay kept the C-47s of the Little Lift flying into Berlin. In practice, some twenty C-47s delivered a few tons of cargo daily, building up local stocks against future Soviet action.⁵² The Little Lift instituted on April 2 was still operating when USAFE officially began what would be called "Operation Vittles" on June 26. The difference lay in the target. The Little Lift supported the military garrison; Operation Vittles supported the entire population of the Western sectors. Even with this difference, it seems clear in retrospect that the Little Lift should be considered an integral part of the Berlin Airlift, and its veterans should be honored as part of that more famous endeavor.

Further Provocations

Soviet leaders viewed the events of that month as part of an escalating campaign of harassment designed to increase pressure on the Western powers. The April crisis was just a step along the way. A chronology of subsequent events validates the Soviet view. On April 9, the Soviets notified Clay that American military personnel maintaining communications equipment in the Soviet zone had to be removed. On April 20, they demanded that all barges secure individual clearances before entering the Eastern zone. On April 24, the Soviets refused permission for two international coaches on the Nord Express train to leave Berlin. On May 20, all barge traffic halted for a time when the Soviets levied new documentation requirements. Trains were temporarily halted on June 1 and June 10. On June 15, the Soviets closed the autobahn bridge across the Elbe River. On June 11, the Soviet military government reported that further restrictions would be placed on traffic to give "another jolt" to Western prestige. On June 19, the Soviets announced that only one train at a time instead of three could pass through the Berlin gateway at Marienborn, reducing the average number of trains from twelve or so daily to no more than seven. Then, on the same day, they halted all passenger train traffic and auto-

bahn traffic. Controls on freight train and barge traffic tightened. On June 21, Soviet authorities halted a U.S. military freight train at Marienborn. On the following day, they seized the train, attached their own locomotive and towed it back to Helmstedt, despite protests by the train commander. The most important step took place on June 16, when the Soviet delegates walked out of the *Komandatura*, the four-power council that governed Berlin, evidence that they no longer believed that they could achieve their goals by participating in its deliberations and a signal of increased confrontation with the West.⁵³

Western concerns over Berlin's vulnerability to Soviet action arose relatively early. By late 1947, the Soviet-controlled press had begun to question the legitimacy of four-power control in Berlin and the U.S. embassy had identified and reported on the Soviet's "noisy campaign to force us out." More specifically, on December 22, 1947, the CIA reported that "there was a possibility of steps being taken in Berlin by the Soviet authorities to force other occupying powers to remove [their forces] from Berlin."⁵⁴

During the April crisis, a U.S. Army intelligence assessment on April 8 accurately described the Soviet actions as a direct attack on the logistical position of the Western powers in Berlin, and "another move in the Kremlin's latest drive to expand further the Soviet Union's sphere of influence."⁵⁵ This assessment concluded that the "Tightening of controls along the western boundary" was evidence of "a complete and final separation of that zone from the rest of Germany."⁵⁶ While army intelligence concluded that the Soviet goal was to push the Western powers out of Berlin and recognized the possibility that public utilities and the food supply of the Berlin population might be restricted, it did not envision a blockade.

Despite over three months of Soviet harassment and the recognition of Berlin's vulnerability, however, there seems to have been little planning given to the possibility of a complete blockade of Berlin. By mid-June, the army's intelligence division had considered the logistic effect of Soviet restrictions, but no further planning had taken place. As of June 15, there was no final plan for U.S. action.⁵⁸

A great part of the problem lay in that the United States had disbanded much of its military system after World War II. Its actual military strength as of February 1948 was 552,000 army, 476,000 navy (including 79,000 marines), and 346,000 air force personnel. The army had little depth, and activating more than one combat division would require a partial mobilization. EUCOM was an occupation force slowly readjusting to a combat readiness under the pressure of events. In April 1947, Clay decided that the army could turn responsibility for maintaining law and order over to the German police, and that its troops could return to combat training. Subsequently, Gen. Huebner dedicated one regiment from the 1st Infantry Division and one of constabulary troops to tactical training. By the fall, Clay could show the two units to the visiting General Bradley with some pride. Two regiments, however, were not going to slow the Soviets down, and things were not much better by the summer of 1948. In July, the U.S. Army in Germany was under strength, with 90,821 troops out of a requirement

for 116,000. Operational forces consisted of the 1st Infantry Division of 12,180 men which had a combat efficiency rating of 62 percent, except for its third regiment which was rated at 15 percent. The U.S. Constabulary of 15,766 men consisted of six highly mobile, lightly armed regiments committed to a security mission. The 350th Infantry Regiment, less a battalion in Austria, was committed to occupation duties and had a combat efficiency rating of 50 percent. Two infantry battalions and two field artillery battalions rounded out the ground forces. The British army had 103,426 men organized into four divisions, three separate brigades, and four separate infantry regiments. The French had another 75,000 personnel organized into one armored division and five regimental combat teams. In Berlin, the Allies fielded the equivalent of five battalions without heavy weapons and with minimal combat effectiveness. These faced four Soviet divisions located within 25 miles of the city.⁵⁹

The air situation was only somewhat better. After his arrival on October 18, 1947, LeMay's efforts to build combat capability met with some success. In June 1948, USAFE consisted of one tactical fighter group, two troop carrier groups, and a photo-reconnaissance squadron, while reinforcements in the form of one fighter group were expected in a few months. The 86th Fighter Group consisted of seventy-five World War II-vintage Republic F-47 Thunderbolts. The group was well trained, had experienced officers, and boasted a 90 percent operational efficiency rating. The 36th Fighter Group and its seventy-five Lockheed F-80 Shooting Stars, the air force's first operational jet, would arrive from the Caribbean after the Berlin blockade began. The 45th Reconnaissance Squadron was a composite unit of twenty-one Douglas A-26 and FA-26s, North American F-6s (reconnaissance version of the P-51 Mustang), and Boeing B-17s. This unit, too, was experienced and well trained with an 85 percent operational efficiency rating. Additionally, as will be detailed later, the air force had begun rotating Strategic Air Command bombers to Germany, and one squadron of Boeing B-29 "Superfortresses" was in residence at Fürstentfeldbrook in Bavaria. Beyond USAFE, the Royal Air Force fielded thirty-six light bombers in four squadrons and ninety-six fighters in six squadrons, although reinforcements from England were close at hand.⁶⁰ The French had committed most of their air power to Southeast Asia; however, it is worth noting that the French Air Force would take part in the airlift, flying several Junkers JU-52 "Toucans." This, however, was a minor effort. "It must be admitted that the French participation proved rather troublesome for the [airlift] organizers," French historians Charles Christienne and Pierre Lissarrague later wrote, "because of the slowness of the JU-52's [sic], their small capacity (1-1/2 tons), the language difficulty—the language used was English—and inadequacy of French radio equipment."⁶¹

Further, General Huebner had begun coordinating war plans with the British, while USAFE coordinated with both the British and French air forces. LeMay had also begun establishing supply installations in the French occupation zone and on air fields in France using the surplus property and the graves registration units as cover.⁶²

The Allies faced a formidable foe. The Soviet forces in Germany consisted of between one-half and one million men. The 3rd Shock and 8th Guards Armies located along the border of the Soviet zone of occupation formed the first operational echelon, while the 1st and 2nd Mechanized Armies further to the east comprised the second operational echelon. These units were heavily mechanized with hundreds of IS-2 heavy tanks and T-34s, the best tank of World War II, backed by huge amounts of self-propelled artillery. Almost all of the officers, especially at higher levels, had extensive combat experience, and the demobilization of troops at the end of the war had primarily affected older, wounded, sick, and tired veterans, leaving a residue of the best younger men, most with combat experience. The Soviet air force operated hundreds of fighters, bombers, and attack aircraft from an extensive network of air fields. The Soviet forces did have weaknesses, primarily in discipline and a shortage of truck transport.⁶³

Currency Reform—A Pretext for Soviet Action

In the meantime, creation of an economically stable Western Germany required reform of the German currency. The occupying powers had introduced a single currency after the war, but the Soviets had debased it by printing as much as they pleased. Further, they opposed currency reform unless they controlled its manufacture without supervision by the Western powers, something the British and Americans refused to allow. By late 1947, Soviet leaders had concluded that the Western powers were well underway toward the introduction of a single currency in the Western zones, and began planning for the introduction of new banknotes for the Soviet zone. On May 18, 1948, the Soviet government directed the Soviet military administration in Germany to put the currency reform into effect in the Soviet zone and to limit the circulation of currency in the Greater Berlin area to Soviet occupation currency if the Western powers instituted unilateral currency reform in their zones. On June 18, the Western military governors, Clay, Robertson, and Koenig, notified Marshal Sokolovsky that new currency would be introduced in the Western zones beginning on June 20. It would not, however, apply in Berlin.⁶⁴

In response, the Soviets increased pronouncements condemning the Western powers for splitting Germany and stepped up the harassment of communications with Berlin. On June 19, Soviet guards halted all passenger trains and traffic on the autobahn, delayed Allied and German freight shipments with inspections, and required that all water transport secure special Soviet permission. On June 21, the Soviets halted a U.S. military supply train and refused to let it go to Berlin. Then, late on the 22nd, they placed armed guards on the train, attached a Soviet engine, and ran it back to Western Germany.⁶⁵

Talks between financial experts from the four powers, held on June 22, went nowhere, but the Soviet delegate was explicit in his threats: "We are warning both you and the population of Berlin that we shall apply economic and administrative sanctions which will lead to circulation in Berlin exclu-

sively of the currency of the Soviet occupation zone."⁶⁶ On the same day, Marshal Sokolovsky notified Clay, Robertson, and Koenig that, in response to the new Western currency, new Eastern currency would be introduced in the Soviet zone, including Berlin. The Western leaders, in turn, extended the use of the currency already established in the Western zone to their sectors of Berlin. In concert with all these actions, the Soviets launched a propaganda campaign notable for its viciousness. By radio, newspaper, and loudspeaker, Soviet authorities condemned and disparaged the Americans, British, and French, and played on the fears of the Berliners in an effort to turn them against the Western allies. Rumors of Mongolian troops spread, and Soviet units began conducting well-advertised maneuvers just outside Berlin. German communists in the Eastern sector of Berlin demonstrated, rioted, and attacked pro-Western German leaders.⁶⁷

On June 24, the Soviets completely severed land and water communications between the Western zones and Berlin, and on the 25th they added, for good measure, that the Soviet Union would not supply food to the civilian population in the Western sectors of Berlin. As of June 24, all rail and barge traffic was halted and only motor traffic out of Berlin to the Western zones permitted, but even this required a twenty-three kilometer detour to a ferry crossing, allegedly because of "repairs" to a bridge. Berlin was blockaded. Only traffic in the air corridors remained opened.⁶⁸

Contrary to popular belief, the purpose of the Berlin crisis was to reverse political decisions already taken by the Western powers, not to force the Western garrisons out of Berlin—although the latter was a long-term Soviet goal. Stalin hoped that failure in Berlin would humiliate the Western powers and force them and the Berliners to accept Soviet aid and Soviet terms.⁶⁹ It is clear that the Soviet leader did not want war with the United States. He was committed to attaining his goals using every method available short of an action that would provoke the Western powers. Scholar Michael Narinskii has recently concluded that

All the Soviet actions were aimed at exerting military and political pressure on the West so as to obtain political concessions, relying on the West's prudence and unwillingness to provoke war. The fundamental mistake made by the Soviet leadership was that they underestimated the resolution of the Western powers to resist Soviet pressure and to press on with realization of the decisions on the German question taken by the London conference of representatives of six countries.⁷⁰

Resolution was one thing; the physical ability of the Allied garrisons to remain in Berlin and the capacity of the Allies to maintain over two million German civilians was quite another. Where Soviet leaders erred was in their assessment of the American and British *capability* to remain in Berlin. Lacking experience with strategic air transport of their own and familiar with the German failure to air supply its forces at Stalingrad during World War II, Soviet leaders drastically underestimated the capability of the American and British air forces to sustain the population of Berlin. "Resolution" would not

deliver a loaf of bread or a lump of coal to Berlin. Airplanes of the United States Air Forces in Europe and the British Air Forces of Occupation would deliver both.

Berlin Under Siege

Five significant points must be emphasized. First, the commitment to remain in Berlin was not inevitable. Only Britain's fiery foreign minister, Ernest Bevin, and Lucius Clay argued the case for Berlin from the beginning. Others, including Marshall and Forrestal, in Washington, and Sir Brian Robertson, in Germany, had reservations about Western ability to maintain the garrisons in Berlin. Second, the airlift was never a solution to the blockade of Berlin. Flying the necessities of life did nothing to resolve the issues involved. Rather it was a stopgap measure, an expedient, that enabled Western leaders to buy the time needed to seek a diplomatic solution to the crisis posed by the Soviet blockade. It enabled them to negotiate without either the need to give in at some point to Soviet pressure, or to escalate the situation beyond control. Third, no one including Bevin and Clay, planned for the airlift or foresaw that it could become that expedient. It was a logical device implemented by military leaders in Germany as an immediate response to the situation. Clay had used it on a limited scale during the April crisis, and he resorted to it again in June almost as a reflex action. Clay neither requested nor received permission from Washington for the airlift. Officially, there were 8,973 Americans, 7,606 British, and 6,100 French occupation personnel in Berlin. Their requirements could be met by air. As for the 2,008,943 Berliners, few believed their needs could be met for any length of time. The airlift garnered support over time. Some American military and civilian leaders saw its possibilities earlier than others. Others came to accept the airlift only after it proved its ability to supply Berlin. Fourth, the leadership of Ernst Reuter and the tremendous determination of the German people to remain free of Soviet control were critical to the success of the airlift. Finally, and most important of all, the airlift fitted into the prevailing written and unwritten ground rules already established through previous interaction with the Soviets in Germany. Tacit agreement to act within those ground rules was all important: it prevented the situation from escalating into something neither side wanted—a war in Europe.⁷¹

In one way, the Berlin crisis took place at a reasonably favorable time. The winter of 1946-1947 had been especially harsh, and had been followed by a drought during the summer. In contrast, the weather in 1948 was exceptionally pleasant, leading to a magnificent harvest, though not enough to end a critical food shortage. In July 1948, the German ration was raised to a minimum of 1,990 calories for the first time since that minimum had been set by nutritionists in 1945. The West had built up the German fishing fleet and imports had also increased. For the first time since the war, Europe had some surplus food. Beyond these factors, the European Recovery Plan held out great promise across the continent.⁷²

Members of the Soviet military administration in Germany celebrated when the blockade began. They believed that the Western powers had little option other than to leave Berlin to the Soviet Union. None had doubts that the blockade would succeed, and they took for granted that, cut off from food and fuel from the Soviet zone, the Western garrisons had no recourse but to evacuate the city.⁷³ None, of course, anticipated the Berlin Airlift.

The Airlift Begins

Officially, the Berlin Airlift began on June 26. However, preliminary actions began much earlier. On June 18, EUCOM's Transportation Division established a traffic control point at Rhein-Main based upon the plans developed following the April crisis, and on the following day the 67th Truck Company delivered 200 tons of supplies from the Quartermaster Supply Depot at Giessen to the control point. On both the 19th and 20th, USAFE C-47s delivered fresh milk to Berlin. On June 21, the Transportation Officer in Berlin expanded the traffic control point at Tempelhof and established liaison with Rhein-Main.⁷⁴ On June 22, General Huebner directed LeMay to "utilize the maximum number of airplanes to transport supplies to Tempelhof Air Drome, Berlin."⁷⁵ LeMay confirmed that

I am today providing all available air lift to supply Berlin in the crisis created by Soviet action following the recent currency conversion. This commitment will undoubtedly continue until the Soviets again permit our rail and freight shipments to pass to Berlin without inspection.⁷⁶

LeMay had two transport units, the 60th and 61st Troop Carrier Groups. Originally, the air force had planned to reduce USAFE's air transport capability to one group of four squadrons performing "airline flights in Europe" and special missions as required. The remaining aircraft would conduct operations



"The maximum number of airplanes." USAFE's air transport in June 1948 consisted of two troop carrier wings of veteran Douglas C-47 Skytrains. These are unloading on the flightline at Tempelhof. (*U.S. Air Force.*)

with the army, a troop carrier group's real mission. Sadly, this had proven impossible. Clay's demands for support of military government requirements normally absorbed most of the available aircraft. In the spring of 1948, LeMay proposed that a second group remain in Germany. In position at Rhein-Main and Wiesbaden, LeMay had the 61st Troop Carrier Group of three squadrons, the 14th, 15th, and 53rd. Further afield at Kaufbeuren Air Base in Bavaria, was the 60th Troop Carrier Group consisting of the 10th, 11th, and 12th Troop Carrier Squadrons. Nominally, these units totaled ninety-six C-47s. LeMay had proposed to use one group to meet theater requirements, while the second handled tactical troop carrier duties, but his plan could not be implemented. In practice, the 61st Troop Carrier Group devoted one squadron to operating a regular theater airlines, a second to supporting military government needs, and the third, supposedly reserved for tactical support, to emergency airlift requirements. The emergency demands for airlift to Berlin in April had drained the unit's resources, however; more than twenty aircraft per day were already committed to Berlin. The 60th was supposed to have a purely tactical mission; however, it actually supported American commitments in Tripoli, Palestine, Cyprus, and Berlin. Support for Tripoli alone had been a two-month commitment. Other missions were done piecemeal, but they added up. In June alone, the 60th furnished thirty-one aircraft and even more aircrews to assorted missions, almost two complete squadrons.⁷⁷

From the beginning of the Little Lift through the arrival of the first C-54s three months later, C-47s were air transport in Europe. While a much beloved airplane in air force lore, they were unpopular in the airlift role. USAFE's Skytrains were all more than five years old and had more than 2,000 flying hours, most under wartime conditions. Some still wore the black and white vestiges of D-Day 1944 invasion stripes. Their limited cargo capacity frustrated those concerned with the build up of supplies, and their age and worn condition frustrated the maintenance and supply personnel who had to keep them in the air. In one example, intergranular corrosion and cracks in the landing gear bracing strut attachment fittings grounded many C-47s at a cost of some 850 hours in inspection and maintenance. A shortage of parts threatened routine maintenance and technical order compliance despite every attempt to requisition them. About the only ones who really liked the Skytrain were the cargo-handling personnel. C-47 doors were low, causing less fatigue for the loading crews and less damage during loading and unloading. Following the April crisis in Berlin, LeMay had requested more modern aircraft, but these would not be available until 1949.⁷⁸

LeMay's response to EUCOM was immediate. Overnight deliveries went from just under six tons on June 21 to 156.42 tons on the 22nd, and for the next week the C-47s sustained eighty tons daily.⁷⁹ From then on the airlift just grew, LeMay later wrote, "in time-honored Topsey [sic] fashion."⁸⁰

Again, however, the USAFE effort was still directed to support of the military garrison. That changed two days later. On June 24, General Clay faced a major decision. He and his staff had developed a plan to break the blockade by

sending a unit of combat engineers up the autobahn to fix the bridge over the Elbe River that the Soviets claimed needed repairs. Clay knew from intelligence reports that the Soviets were bluffing, and believed that forcing the blockade immediately was the correct response. But an armed convoy was also a calculated risk, and Clay knew that gaining Washington's approval for such action would be difficult. The British military commander, Gen. Sir Brian Robertson, was appalled by Clay's plan. "If you do that, it'll be war—it's as simple as that," he told the American. "In such an event I'm afraid my government could offer you no support—and I am sure Koenig will feel the same."⁸¹

Robertson proposed an alternative: supply Berlin through the air. Clay was dubious. Delivering cargo to the Allied garrisons by air was easy; supplying an entire population posed potentially insurmountable difficulties. Early the next morning Clay held a teletype conference with Secretary of the Army Kenneth Royall, during which Royall stressed that Clay take no action that risked war. This decision ended the plan for an armed convoy for the time being, and left Clay with no real options. Later that day, he met with Lord Mayor-elect Ernst Reuter. "I may be the craziest man in the world," he told the German leader, "but I am going to try the experiment of feeding this city by air." Reuter was skeptical. He doubted that the city could be supplied by airplane, but he promised that come what may, the Berliners would make the sacrifices necessary to survive.⁸²

But Clay, too, remained skeptical about an airlift, and was extremely thankful that the USAFE effort would probably only have to last only a few days or a few weeks at most. His immediate need was food. On the afternoon of June 26, Clay asked Col. Frank Howley, the tough, irrepressible commander of the American garrison in Berlin, what should be flown in first. Howley specified flour since it was easy to handle and of high food value, and, by the next day, two hundred tons of flour had reached Berlin.⁸³ Howley watched the Skytrains land. To him, they were a harbinger of the future:

They wobbled into Tempelhof, coming down clumsily through the bomb-shattered buildings around the field, a sight that would have made a spick-and-span air parade officer die of apoplexy, but they were the most beautiful things I had ever seen. As the planes touched down, and bags of flour began to spill out of their bellies, I realized that this was the beginning of something wonderful—a way to crack the blockade. I went back to my office almost breathless with elation, like a man who has made a great discovery and cannot hide his joy.⁸⁴

Superfortresses to Great Britain

As the airlift began, another deployment came under consideration. World War II had seen thousands of U.S. bombers based in Great Britain. All were gone by the end of 1946. The Soviet actions in Germany now brought the Americans back. An informal agreement two years earlier made the deployment of B-29s to Great Britain possible. In 1946, Air Chief Marshal Sir Arthur



“B-29s to Great Britain.” Boeing B-29 Superfortresses of the 28th Bombardment Group from Rapid City, South Dakota, over Dover. (*U.S. Air Force.*)

Tedder, Chief of the Air Staff, and Gen. Carl Spaatz, Commanding General, U.S. Army Air Forces, took note of the growing Soviet threat and noted that the length of the runways on RAF airfields could handle B-17s and B-24s, but not the huge B-29s. Thanks to a “gentlemen’s agreement” between the two leaders, the British over the next year or two lengthened and widened the runways at several bases.⁸⁵

The initiative in 1948 came from the British. On June 26, Ernest Bevin, the uncompromising foreign secretary, told American Ambassador Lewis W. Douglas that the airlift would provide time for negotiations, and recommended that the U.S. also send heavy bombers so that the Soviets would understand that the West meant business. In Germany, Sir Brian Robertson learned of his government’s position and tipped off Clay. On June 27, Clay requested a group of B-29s. Gen. Hoyt Vandenberg supported this request, because he had wanted to get additional Strategic Air Command units to Europe for some time. The Berlin crisis now offered him the opportunity. President Truman approved the move on the 28th. The Strategic Air Command alerted its forces; however, the movement was delayed until July 13 when the British Cabinet approved the two groups of B-29s at a meeting on July 13. On July 17-18, 1948, some sixty B-29s of the 28th Bombardment Group from Rapid City Air Force Base, South Dakota, and the 307th Bombardment Group from MacDill Air Force Base, Florida, landed in Britain for what was billed as thirty-day temporary duty (TDY).⁸⁶ This deployment subsequently became sixty days, then ninety days. On November 13, the Air Ministry advised Washington that long-term use of RAF stations by U.S. aircraft “was assumed.”⁸⁷

The deployment of the two heavy bomber groups was a tremendous demonstration of American commitment to the defense of Europe and of its

partnership with Great Britain. On the other hand, it is uncertain how much of a deterrent the two groups of B-29s provided. They were a powerful conventional bombing force in their own right, but it is clear now that they lacked the ability to deliver atomic bombs and were a much weaker deterrent than believed at the time. B-29s configured to deliver nuclear weapons, designated SILVERPLATE, were just coming into service. Only the 509th Bombardment Group at Roswell Air Force Base, New Mexico, had them, and none of these were sent to Europe until July 1949.⁸⁸

Soviet intelligence reported the arrival of the 28th and the 307th Strategic Bomber Groups, but it remains unclear whether or not the Soviet leadership knew that the B-29s lacked nuclear weapons. In any case, the U.S. nuclear monopoly had already provided an effective deterrent to any idea on Stalin's part of settling the Berlin situation through military means. Despite a scare in September 1948 when two Soviet divisions moved closer to the border with Western Germany, there is no indication that the Soviets considered military force. The combat training and level of military activities of the Soviet forces in Germany did not change significantly. Small-unit tactical training continued, but large-scale operational exercises of the type necessary for offensive action were absent, and Soviet units maintained normal levels of combat readiness. Further, the only discussion of a military nature in the Politburo during the Berlin crisis took place on June 30, 1948, and concerned the question of anti-aircraft defense of the Soviet Union. This discussion certainly reflected Soviet concern over the U.S. Air Force and the nuclear monopoly. It is less clear that it reflected the deployment of B-29s to Europe.⁸⁹

The Armed Convoy Option

Lucius Clay remained committed to forcing the blockade despite the reaction of the British and those in Washington. He and his political advisor, Robert Murphy wanted to challenge what they saw as a Soviet bluff, and they may have been correct given the lack of Soviet military planning for such a contingency. Further, since most high-level leaders viewed airlift with considerable skepticism, an armed convoy remained an option for several months. The National Security Council on July 16, concluded that after October, when winter set in, the U.S. would have to consider using an armed convoy to break the blockade.⁹⁰

In contrast to Clay's optimism, however, an analysis by the Pentagon on July 13 presented a bleak picture. The autobahn route to Berlin was 125 miles long and averaged three bridges per mile. Even if this could be seized and held, it still required a prodigious logistical effort to supply Berlin by truck, requiring "a system of transportation and traffic control equal to that in effect on the Red Ball Highway of OVERLORD OPERATION . . . during World War II."⁹¹ All barge and rail traffic was controlled by the Soviets, and to control these would require the seizure and holding of all locks, marshalling yards, switches, and bridges. The U.S. Army had neither the combat capabilities nor the

transport capabilities for such a mission. And above all, any such action ran the risk of war. Clay, on the other hand, expressed confidence in his ability to run an armed convoy to Berlin without serious trouble; however, the window for this effort was rapidly closing. Chances for success would be severely reduced if it was not done soon.⁹²

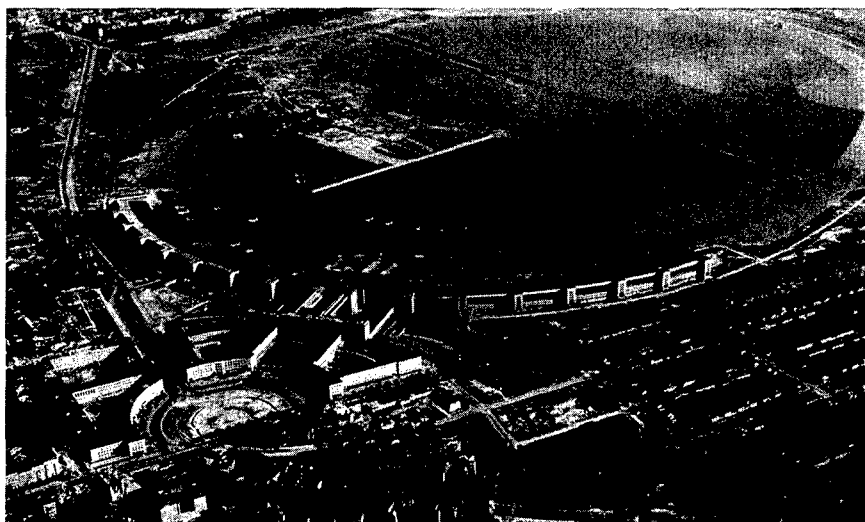
On July 22 the Joint Chiefs directed Clay to prepare contingency plans for an armed convoy. By September 8, Clay had prepared a plan for "Task Force TRUCULENT" calling for the 2nd Constabulary Regiment, 1st Engineer Battalion, and five to six truck companies with unspecified contingents of British and French troops to deliver 1,000 tons of supplies per day by truck. The convoy would be organized and equipped for combat and to remove any obstructions from the route. Depending on the Soviet reaction, EUCOM would then follow TRUCULENT with regular convoys on the same route sufficient to deliver 1,000 tons of cargo to Berlin daily.⁹³

Although planning continued, it is clear, that little interest existed at the highest levels for trying to force convoys into Berlin. The Joint Chiefs of Staff generally believed that the idea was impractical, and that the combined strength of both the U.S. and British forces was insufficient to fight convoys through any kind of interference. Further, neither the British nor French were willing to back the use of an armed convoy until all diplomatic measures had been exhausted. Then, the British probably would support the option; the French probably would not.⁹⁴ Luckily, the need for an armed convoy faded. As the Berlin Airlift began to prove its ability to supply Berlin, it eliminated the need for more direct action and that was probably for the best.

General S. Ivanov, chief of staff of the Soviet forces in Germany later confirmed that the Soviets had considered the possibility of the United States attempting to run an armed supply convoy to Berlin. Soviet intelligence, however, reported that the Americans were making no preparations for such action; thus, preparations to counter armed convoys were unnecessary. Armed convoys would have been extremely dangerous, according to former officers of the Soviet forces in Germany. They would have been viewed as an invasion of Soviet-controlled territory and quite possibly fired upon with unpredictable consequences.⁹⁵

Operation Vittles: An Expedient in Action

Facilities to support the airlift in Germany were limited. In the American zone of occupation, Rhein-Main, outside Frankfurt, was the major air terminal in Germany. USAFE had built most of its facilities, and these were already overcrowded when the airlift began. It had one 6,000-foot concrete runway and dispersed hardstands for tactical fighters. Despite the concrete, however, conditions were such that the field would quickly become known by the apt nickname, "Rhein Mud." Wiesbaden, 275 miles from Berlin, was a former *Luftwaffe* fighter base with minimum facilities and utilities. It had a 5,500-foot concrete runway and attendant taxiways and hardstands. Tempelhof in Berlin



“Tempelhof.” Completely surrounded by buildings, Tempelhof was the primary American-operated air field in Berlin. (*U.S. Air Force.*)

was the city’s municipal airport prior to the war. When the Americans took over, they built a 6,150-foot pierced-steel-planking (PSP) runway, a concrete apron and taxiway, and dispersed hardstands for tactical aircraft.⁹⁶

The British, on the other hand, were reasonably supplied with airfields. Most were former *Luftwaffe* fields improved and expanded by the RAF’s airfield construction wings and the Royal Engineers. These included Wunstorf, Fassberg, Celle, Schleswigland, Lübeck, and Fuhlsbüttel. Finkenwerder on the Elbe near Hamburg served as a seaplane base. The British opened the bases to airlift operations one at a time as needed and all were in operation by the end of 1948. In Berlin the situation was less satisfactory. The British airlift had to operate out of Gatow until, as will be described later, the construction of another field at Tegel. Gatow was originally a training center for the *Luftwaffe*. It had no runway until the Royal Air Force established a 4,500-foot PSP runway, built as part of a larger plan that allowed for supplying the British by air in case of an emergency.⁹⁷

Their occupation zone gave the British major advantages. The zone was relatively flat while the Americans had to fly over the Taunus Mountains. The weather tended to be milder with less fog. More significantly, the British had shorter distances to fly. The southern corridor was half again as long as the northern corridor, enabling British aircraft to make more trips to Berlin per day.

Thanks to the stockpiles built up in Berlin after the April crisis, the city could manage. Stocks of supplies as of June 30 included a twenty-five-day supply of flour, eighty-one days of sugar, nineteen days of meat, fifty-six days of fat, eighteen days of potatoes, fifty-four days of cereal, nineteen days of milk, and eighteen days of coffee. These stocks meant that Berlin did not have

to rely on air support immediately, provided a margin of safety in case of failure or error, and furnished time to expand the existing airlift capacity.⁹⁸

In Berlin, planners became deeply involved in calculating the trade-offs involved in determining the composition of the cargo to be carried by the airlift. Most often this featured intricate calculations that balanced short-term burdens against long-term needs. For example, was it better to fly in flour and coal and manufacture bread in Berlin, or, since a loaf of bread was 30 percent water, to pay the price in weight and fly in loaves? The decision was to deliver flour and coal. On the other hand, it was smarter in terms of cargo space to airlift real coffee, rather than provide the fuel required to manufacture ersatz coffee in Berlin. Dehydrated potatoes, known as "Pom," in another example, were one fifth the weight of fresh ones. Other decisions involved altering the physical plant of the city. Construction of a bridge between Gatow and the city reduced the amount of gasoline needed to haul airlift cargo, and changing over electrical plants to use diesel fuel meant that they would consume less coal. These and, literally, thousands of similar calculations enabled the planners to reduce essential airlift cargo to a practical minimum.⁹⁹

The American military government set the city's basic daily food ration at 646 tons of flour and wheat; 125 tons of cereal; 64 tons of fat; 109 tons of meat and fish; 180 tons of dehydrated potatoes; 180 tons of sugar; 11 tons of coffee; 19 tons of powdered milk; 5 tons of whole milk for children; 3 tons of fresh yeast for baking; 144 tons of dehydrated vegetables; 38 tons of salt; and 10 tons of cheese. Beyond food, the primary need in Berlin was the raw materials of power, coal and liquid fuel. The major difference between the World War II airlift over the Hump (Himalayas) in China and the Berlin Airlift was that gasoline was the major cargo in the former, while coal became the most important cargo in the later. In addition, quantities of raw materials would be required to keep Berlin industries operating, together with a wide assortment of smaller necessities ranging from medical supplies to newsprint. Initially, Howley and his experts figured that they could get by with 3,475 tons per day in August, September, and October¹⁰⁰

Additionally, it is now clear that the Berlin Airlift was aided by the fact that the Soviet blockade was loosely applied, especially in the first few months. The Western sectors of Berlin simply could not be isolated from the rest of Berlin; the railroad system wound in and out of the Western and Eastern sectors and occasional Soviet attempts to reroute trains proved fruitless; canal traffic from the Elbe and Oder Rivers also passed through the British sector of Berlin; and thousands of Germans, who lived in one sector and worked in another, traveled between the sectors daily. Such access offered endless temptation and little hazard to German traders who often had to do little more than falsify their manifests to show a delivery destination in the Soviet zone, and then deliver their cargo to the Western sectors. American intelligence documented the arrival in August of large amounts of foodstuffs, including fish products, vegetables, cereals, soups, and fruits, as well as fodder, firewood, coal, and building materials. Such deliveries were documented well into

October, and apparently continued throughout the blockade.¹⁰¹ Frank Howley counted on the porousness of the Soviet blockade:

Tight lines were drawn between the Soviet sector and the three Western sectors, but they didn't prevent intermingling during the blockade.... About eighty thousand Germans, living in our sector and working in another, or doing business outside their own sector, went back and forth daily....Theoretically, the Germans were not permitted to bring anything into our sectors, but the Russians, so keen on searching people on the slightest pretext, shrank at the formidable task of searching eighty thousand every day.¹⁰²

Before the blockade, Berliners had foraged for food in the Eastern zone to supplement bare shelves, and that practice continued even after the borders closed. More significantly, the Germans developed a "widespread and efficient smuggling organization" that brought truckloads of food into the Western sectors of the city. Berliners flocked to the *Potsdamerplatz* in the center of Berlin, where black market items were available in substantial amounts to those who could afford them.¹⁰³

The Soviets kept the doors to Berlin half open, because they needed the West as much as, if not more than, the West needed them. Close economic ties existed between Western Berlin and the Soviet occupation zone. Industries in Berlin were able to negotiate deals with suppliers in the Soviet zone in exchange for finished goods that the Soviets were interested in obtaining. The Soviet military administration and German Economic Commission continued to procure the more stable and valuable currency circulating in Western Germany by selling luxury goods, textiles, and silk hose in the Western zones. When Marshal Sokolovsky and Col. Sergei Tiulpanov met with members of the East German Industrial Committee on June 28, they appear to have been shocked when the Germans explained that German industry in the Soviet zone would soon cease to function without access to raw materials and parts from the Western zones. Seemingly, they had no understanding of the extent that the Soviet zone depended on Western materials and industries.¹⁰⁴

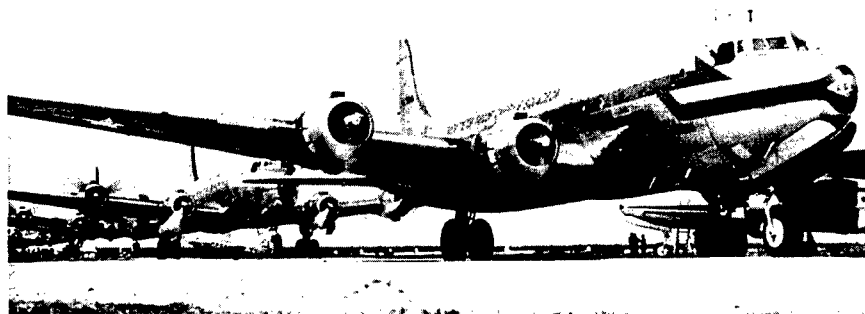
The interdependence of the sectors was demonstrated by an incident that bordered on farce. The irrepressible U.S. commander in Berlin, Frank Howley, took special glee in bedeviling the Soviets. At one point during the blockade, Howley found that Marshal Sokolovsky's home was serviced by a gas main that went through the Western sector. He turned off the heat, forcing the Marshal to move. When Soviet soldiers loaded Sokolovsky's furniture on a van and tried to sneak across the Western sector, Howley's alert men captured the furniture.¹⁰⁵

Lucius Clay began playing his own economic card early with devastating impact. On June 24, the Soviets halted milk delivery to the Western sectors but quickly resumed it when U.S. authorities halted meat deliveries to the Eastern zone. When the Soviets cancelled the Berlin Food Agreement on June 25 and ordered that food supplied by the Soviet occupation zone be distributed only

in the Eastern sector of Berlin, American authorities immediately had the city magistrat transfer American-supplied flour from the main food warehouses to storage areas in the Western sectors. When the Soviets announced that all food received in the Soviet sector would be distributed in that sector only, the U.S. cut out all shipments of food and medicine to the Eastern sector.¹⁰⁶ Ultimately, the Allied "counter blockade" would severely impact the economy of the Soviet zone of occupation and cause a major headache for the Soviet military administration in Germany.

The British could initially deliver seventy-five tons per day, but could increase this to four hundred tons with aircraft deployed from England. Once they completed some runway repairs at Gatow on July 3; however, the British capacity could almost double to 750 tons per day. BAFO could maintain this level for one month at the expense of all air traffic except with Berlin and with Warsaw, and with repercussions on British civil air transport. The American capacity was terribly limited also. Based on a figure of seventy trips per day, USAFE planners calculated that the command could provide about 225 tons of supplies. LeMay believed that with an all-out effort he could fly 100 round trips per day providing, at most, about three hundred tons of cargo daily. Theoretically, then, the airlift could deliver about 1,000 tons per day. To meet these goals, late on the evening of June 27th, USAFE ordered the 60th Troop Carrier Group from Kaufbeuren to Wiesbaden. The first of the 60th's C-47s reached Wiesbaden early in the morning and were loaded and ready to fly into Berlin that evening.¹⁰⁷

LeMay knew that USAFE would be unable to sustain its efforts for long, however, and he had reached the end of his own resources. He had a critical need for modern airlift capability, and reinforcements from the United States were mandatory. On the 26th, LeMay sent a message to Washington asking that HQ USAF transfer a group of Douglas C-54 "Skymasters," to Germany immediately, and he also wanted HQ USAF to consider moving up the date



"Another successful veteran." The Douglas C-54 Skymaster, the U.S. Air Force's primary strategic air transport during the 1940s, was the backbone of the Berlin Airlift. These are waiting for takeoff at Rhein-Main. (*U.S. Air Force.*)

when the 60th and 61st Troop Carrier Groups would convert to C-54s. Clay, at LeMay's urging, made his own request for C-54s on the following day.¹⁰⁸

In the Skymaster, Clay and LeMay were calling on another successful veteran of World War II. Douglas had begun development of a four-engine, transcontinental airliner in the late 1930s, and the U.S. Army Air Forces commandeered the production line after Pearl Harbor. Orders for a military cargo version quickly followed. The C-54 first flew in March 1942 and the Army Air Forces bought a total of 952, while the U.S. Navy purchased an additional 211 as the R5D. Four 1,290 h.p. Pratt & Whitney R-2000-7 engines gave the airplane a top speed of 265 m.p.h. and enabled it to carry over thirteen tons of cargo. On the airlift, however, the C-54 seldom carried more than ten tons because of the added wear to the tires and the increased strain on the brakes during landings. LeMay needed C-54s, and the Skymasters needed to be self-sustaining, with their own stocks of equipment, parts, and spares, especially engines.¹⁰⁹

On Sunday, June 27, Secretary of Defense Forrestal held a meeting that included Secretary of the Army Royall, Under Secretary of State Robert Lovett, Secretary of the Navy John L. Sullivan, and Air Force Maj. Gen. Lauris Norstad. The conferees estimated that Berlin could survive for thirty days on existing reserves and the cargo delivered by air. The use of dried foods could increase this to sixty days. One decision by this group was implemented immediately: the secretary of defense ordered four C-54 squadrons from Alaska, the United States, Hawaii, and the Caribbean to Germany. Air Force Chief of Staff Hoyt Vandenberg passed the news to LeMay. Three squadrons of thirty-nine C-54 Skymasters from the Alaskan, Caribbean, and Tactical Air Commands would be leaving their bases within twenty-four hours carrying spare air crews and maintenance personnel. A fourth squadron, thirteen C-54s from Seventh Air Force in Hawaii, was also ordered to Germany with additional crews and maintenance personnel.¹¹⁰

On Monday, the 28th, Forrestal, Royall, and Lovett presented the options to President Truman. The President interrupted. Abandoning Berlin, he affirmed, was beyond discussion. The United States was in Berlin by agreement, and the Soviets had no right to push its forces out. Truman then approved the decisions sending additional B-29s to Germany, upgrading the B-29 squadron in Germany to a group, and deploying two groups of B-29s to England. For the time being, no B-29s would go to France, however, and the transfer to England was delayed until the British government gave its approval. At the same time, the Strategic Air Command directed the 301st Bombardment Group at Goose Bay, Labrador, to send two squadrons to Fürstenfeldbruck, Germany, immediately. On June 28, USAFE submitted an estimate to the director of EUCOM's Logistics Division that showed a planned increase in tonnage from 450 tons per day by June 30 to 1,500 tons as of July 10.¹¹¹

The increased tonnage requirements demanded a more efficient organization, and LeMay himself got a firsthand look at the problems when he flew a C-47 into Tempelhof on June 29. Cleared and ready to depart Rhein-Main at

1045, he was forced to wait until noon because of difficulty in getting runway clearance at Tempelhof. Once in Berlin, however, things went smoothly; it took only twenty minutes to unload the aircraft. LeMay also conferred with Clay while in Berlin about the complex and difficult task of delivering coal. Ultimately, they agreed that the only way to move coal in sufficient amounts was to use B-29s. Tempelhof, however, lacked the ability to handle the Superfortresses, and LeMay was determined to try to drop the coal at low altitude. He directed Col. Henry Dorr, the commanding officer at Tempelhof, to find a suitable location away from the active runway to test the concept. As a result of his visit, LeMay also directed the air traffic control center to revise landing procedures at Tempelhof by eliminating standard instrument approaches where possible in favor of a straight-in approach during inclement weather. At Tempelhof, he saw pilots going to operations to fill out forms as they would under normal conditions. LeMay ordered operations officers to go to the aircraft with the proper forms, instead, and also had coffee and refreshments brought to the airplane. And after returning to Rhein-Main, LeMay further ordered the 60th Troop Carrier Group to reduce the fuel load in the C-47s by two hundred gallons, increasing its payload by about 1,500 pounds.¹¹²

Perhaps most important, after his return on the 29th, LeMay appointed Brig. Gen. Joseph Smith, the commander at Wiesbaden, as temporary commander of the airlift operation with orders to integrate the airlift activities at Wiesbaden, Rhein-Main, and Tempelhof to achieve the maximum number of missions. Smith, a distinguished officer with experience ranging from flying the airmail to commanding strategic bombers, was reluctant to take on what appeared to be an ill-defined, open-ended task. LeMay assured him that it was only a two-week job. Smith accepted and established his headquarters at Camp Lindsey, Wiesbaden, with two main sections, Operations under Col. Carl R. Feldman and Supply and Maintenance under Lt. Col. William H. Clark. Public information and statistical control sections rounded out the organization. As the airlift expanded over the next few weeks, this headquarters grew dramatically. Smith's "two-week" tenure lasted from June 29 through July 28, and during that time he and his staff made several fundamental decisions that shaped the Berlin Airlift.¹¹³

The first C-54 arrived at Rhein-Main on the morning of July 1 and the first Skymaster cleared for Tempelhof just over ten hours later. By July 2, seventeen of the big birds had reached Rhein-Main. Of these, three had already flown missions into Berlin and two were in poor condition, while twelve were undergoing routine maintenance and would be ready on the next day. Nine more were en route, while one was on the ground at Bordeaux. Smith and his staff quickly established a plan for the follow-on waves of C-54s on their way from the United States. The first twenty-five went directly to Rhein-Main, where they were fed into the C-54 squadrons at that base; an additional thirty were fed into the 60th Troop Carrier Group at Wiesbaden. As additional C-54s arrived, the C-47s returned to their home bases, leaving their crews behind. For support, C-54 engine "buildup" remained at Rhein-Main, and C-54 parts



"Temporary commander of the airlift." Brig. Gen. Joseph Smith was a distinguished veteran of the U.S. Air Force who established many of the basic procedures followed by the Berlin Airlift. (*U.S. Air Force.*)

and supplies were centralized at the same location. Three days later, on the 12th, Smith and his staff followed this plan to its logical end and made Rhein-Main an exclusive base for C-54s. The remaining squadron of C-47s transferred to another mission on Cyprus, while the last ten Skytrains subsequently moved to Wiesbaden. Possibly the most important decision was to centralize all C-54 supplies, also at Rhein-Main.¹¹⁴

Smith and his staff established a "block system" to manage the two aircraft which had significantly different cruising speeds and flight characteristics. Under the block system, the aircraft flew in groups by type at separate times. Further, the C-54s received priority to take advantage of their larger cargo capacity. The C-54 blocks from Rhein-Main took off first followed by the C-47s from Rhein-Main. The C-47s at Wiesbaden acted as a filler, taking off after the C-54s had cleared Rhein-Main and ceasing operation when the C-47s at Rhein-Main were scheduled to clear. Smith and his staff also established the radio codes for airlift aircraft as follows: "Easy" for eastbound C-47s, "Willy" for westbound C-47s, and "Big Easy" and "Big Willy" for the

C-54s. These designations were followed by numbers beginning with "1" assigned in order of takeoff followed by the last three digits in the aircraft's serial number.¹¹⁵ "Big Easy," the code for eastbound C-54s landing in Berlin, became perhaps the most recognized words on the radio during the Berlin Airlift.

Beyond these measures, Smith initiated the goal of spacing the aircraft in the blocks at three minute intervals, instituted the minimum "in commission" rate for airplanes at 65 percent, and directed that each aircraft in commission would make three round trips each day. Efficiency measures extended to cargo management. On July 26, Smith and his staff had made final arrangements for all military and industrial supplies to be shipped through Wiesbaden and for Rhein-Main to handle cargo destined for the civilian population. On July 21, General Smith requested that improvements be made to the navigation beacon at Tempelhof, and he coaxed American Forces Network (AFN) to broadcast all night, providing a positive fix for radio compass.¹¹⁶

The arrival of the huge Skymasters soon caused problems. Reports from Berlin quickly indicated that Tempelhof's runway was breaking down and would not last more than sixty days. Smith received authorization to begin construction of a second runway at Tempelhof on July 9 and ten days later his headquarters had completed plans for transporting construction materials to Tempelhof. Planners allotted fifty tons daily on the airlift for construction materials, and by July 31, the airlift had delivered 274.6 tons of materials for runway construction.¹¹⁷

On July 23, in a farsighted move that will be discussed in detail later, Smith approached Group Captain K. B. B. Cross about the possibility of basing C-54s at one of the RAF airfields in the British occupation zone. Cross recommended either Fassberg, Wunstorf, or Gutersloh.¹¹⁸

By the latter half of July, the airlift showed considerable improvement in organization and efficiency. The headquarters at Camp Lindsey had expanded, and now commanded four main units. The 60th Troop Carrier Group at Wiesbaden and the 61st Troop Carrier Group at Rhein-Main were in the process of replacing their C-47s with C-54s. At Rhein-Main, the Provisional Troop Carrier Group of C-54s consisted of four squadrons based on their origins: the 48th Troop Carrier Squadron was the "Texas Squadron," the 54th the "Alaska Squadron," the 20th the "Caribbean Squadron," and the 19th the "Hawaiian Squadron." Finally an element of officers and enlisted men at Tempelhof handled operations at that end of the airlift.¹¹⁹

With the arrival of the Skymasters, the average daily delivery rate began to climb, tripling from the just over 500 tons per day at the end of June. On July 31, Operation Vittles delivered 1,719.5 tons of cargo. The British airlift, described below, delivered 1,437 tons on the same day, for a combined total of 3,156.5 tons, well below the 4,500 tons per day required in Berlin. The figures for July 31, also demonstrated the relative efficiency of the C-54 over the C-47: 122 C-54 sorties had delivered 1,072 tons, while 200 C-47 sorties had delivered 647.1 tons. Despite the fact that the daily tonnage requirement for

Berlin had yet to be met, great effort had yielded significant results. Since the airlift began through July 31, the combined cumulative total for the airlift was 69,005.7 tons of cargo, 39,971 tons delivered by U.S. aircraft and 29,034.7 by British airplanes.¹²⁰

Operation Plainfare

In the meantime, the British buildup proceeded at a marvelous pace, first under Air Marshal Sir Arthur P. M. Sanders, then, after November 1948, under Air Marshal T. M. Williams. In June 1948, Royal Air Force Transport Command had only No. 30 Squadron of Douglas C-47 "Dakotas" in Germany. The British C-47s were similar in performance to the American version, and, like their U.S. Air Force counterpart, were aging rapidly. By removing excess equipment, the British increased the Dakota's average cargo load from just over two tons to over three tons. In May 1948, Headquarters No. 46 Group had directed that a squadron in England stand by to support the garrison in Berlin in case of an emergency. In June, this requirement was expanded to two squadrons and a plan was drawn up under the title "Operation Knicker" that called for twenty-four Dakotas to deliver roughly sixty-five tons of cargo daily to the British garrison in Berlin.¹²¹

On the evening of June 24, in accordance with Operation Knicker, the British sent one squadron of eight C-47s to Wunstorf. Each transport carried its own ground crew, and all of the crews took enough personal equipment for ten days' temporary duty. The first squadron reached Wunstorf on June 25 and was followed by a second squadron of Dakotas on the 28th. The British Army, in the meantime, assembled some two hundred tons of supplies, mostly flour and meat, at Wunstorf, and on the 28th the airlift began. Between the 28th and 30th, the British delivered seventy-five tons of cargo. By the June 28, however, it was clear that something more than two squadrons would be required. Air Commodore J. W. F. Merer, Air Officer Commanding, No. 46 Group, ordered a much expanded operation using No. 38 and No. 47 Groups under the code name "Carter Patterson." The operational orders for the enlarged airlift were issued on June 30, and an additional thirty-eight airplanes reached Wunstorf on the same day. By the beginning of July, Wunstorf, a small field to begin with, had been saturated by the Dakotas of Nos. 30, 46, 53, 77, and 238 Squadrons, plus a portion of No. 240 Operational Conversion Unit. On July 1, the expanded airlift delivered 31 tons of cargo. Despite best efforts, however, poor weather, shortages of ground equipment, and maintenance problems prevented Wunstorf from reaching the planned 160 sorties per day during the first phase of Operation Plainfare, from June 30 to July 3. By mid-July, the code name "Carter Patterson" was replaced by an intentional and utterly appropriate pun: the British airlift became "Operation Plainfare."¹²²

Command problems probably contributed to the difficulties, also. On June 29, both the Royal Air Force Transport Command and the British Air Forces of Occupation sent group captains to Wunstorf with the same instructions, to

command all transport operations. It took a few days to sort this out, and, on July 3, new instructions recognized that the BAFO Advanced Headquarters had been formed at BAFO and that this unit would command air transport operations. This decision solved the immediate command situation, though it caused some bad feelings amongst senior officers. BAFO, like USAFE, was a tactical command with limited experience in the complexities of air transport operations. Logically, Transport Command's No. 46 Group had the experience, and the command should have gone to that entity.¹²³

On July 2, the first of forty four-engine Avro Yorks from No. 47 Group arrived at the base. The Avro York was the transport version of the RAF's superb Lancaster bomber. Powered by the even more superb Rolls Royce Merlin engine, the York had a maximum speed of 310 m.p.h. and an airlift speed of 185 m.p.h. During the airlift, the York underwent changes that raised its average load to a little over eight tons. In comparison, the C-54 averaged about ten tons. The other major RAF transport to see service was the Handley



"The British buildup proceeded at a marvelous pace." Air Marshal T. M. Williams, Air Officer Commanding, British Air Forces of Occupation, beginning in November 1948. (*Crown copyright, Air Historical Branch, Ministry of Defence.*)



"Transport version of the superb Lancaster bomber." Avro Yorks in front of the unloading hangars at Gatow in Berlin, September 1948. (*U.S. Air Force.*)

Page Hastings, a four-engine aircraft with a payload of over nine tons designed to replace the York.¹²⁴

The addition of the Yorks during the second phase of Operation Plainfare, between July 4 to July 19, enabled the RAF to increase its cargo delivery dramatically. But bad weather, which frequently shut down operations at Gatow completely, and maintenance problems with the Yorks, which limited them to an average of 77 sorties per day instead of the planned 120, restricted what might have been accomplished. Another problem was caused by the difference in speed and cargo capacity between the aircraft. A steady, sustained stream of aircraft was possible if all the aircraft were alike, but in the British zone they were not. Yorks were bigger than Dakotas and took longer to load and unload. Worse, the Yorks were much faster. The Dakotas had been spaced six minutes apart, based upon the available cargo handling capability. The Yorks, however, spaced at the same interval, would overtake the Dakotas in the corridor, and while the aircraft going east were spaced as far from those returning to the west as possible and separated by height and time, the danger of collision during ascent and descent was immediate. The solution was a block system by aircraft type with sufficient interval between blocks so that the first York would not overtake the last Dakota in the previous block. This system, however, placed an uneven burden on the ground crews. Planners then developed a new, more complex system that fed the two types into the corridor on a timed schedule, enabling them to land at four-minute intervals at Gatow. Additionally, when bad weather intervened, the bigger Yorks received priority over the Dakotas, to the chagrin of the latter. Further, different types of aircraft were also flown at different altitudes for additional safety. Where the American airlift, as will be described, could be viewed as a single conveyor belt, the British operated as a set of conveyor belts separated by type and altitude.¹²⁵

By mid-July, the large number of Dakotas and Yorks had overtaxed Wunstorf's facilities, and the Royal Aircraft transferred all Dakotas to Fassberg, a former RAF fighter base in caretaker status at the beginning of the airlift.¹²⁶

Despite a relatively good maintenance record, the C-47 Dakotas were smaller and gave way to other aircraft if block time was lost or the airlift flow was interrupted. The much larger Avro Yorks and Handley Page Hastings suffered from maintenance problems. The former was not robust enough for frequent takeoffs and landings under full loads, while the latter had teething problems following its introduction in November 1948.¹²⁷

The biggest problem for the RAF came in a shortage of flying personnel, which severely affected utilization rates. On the average, the Americans had twice as many crews for each airplane as the British and the maintenance establishment to support its airlift. On the other hand, the British took responsibility for cargoes like liquid fuel and certain awkward freight that took time to load and unload and interfered with smooth, efficient scheduling.¹²⁸

Elements of the British army's Royal Army Service Corps handled the receipt, storage, and loading of all cargo handling at the despatching bases. Designated the Rear Airfield Supply Organization, these units employed large numbers of German laborers. Similarly, the Forward Airfield Supply Organization accomplished all cargo handling in Berlin.¹²⁹

There was no railroad between Gatow and Berlin, but Lake Havel offered a satisfactory solution to getting heavy cargo to the city. About forty big barges capable of carrying some 15,000 tons of freight had been trapped on the lake by the blockade. Again, it was a matter of calculation. It was much more economical to move cargo by barge. Three thousand tons of cargo moved by vehicle would cost some fifteen tons of gasoline or five tons of diesel oil. But one tug could tow the same load on barges and burn only one ton of coal. Liquid fuel was also moved by barge, delivered from Gatow to Lake Havel though sections of PLUTO, the oil pipeline laid across the English Channel to supply oil to the Allied armies in France after D-Day. Lake Havel also served, for a time, as the base for Short Sunderland flying boat flown by Coastal Command. On July 5, Sunderlands began delivering large stores of food, and especially salt. They operated under increasingly difficult conditions until December when danger of ice caused them to be withdrawn.¹³⁰

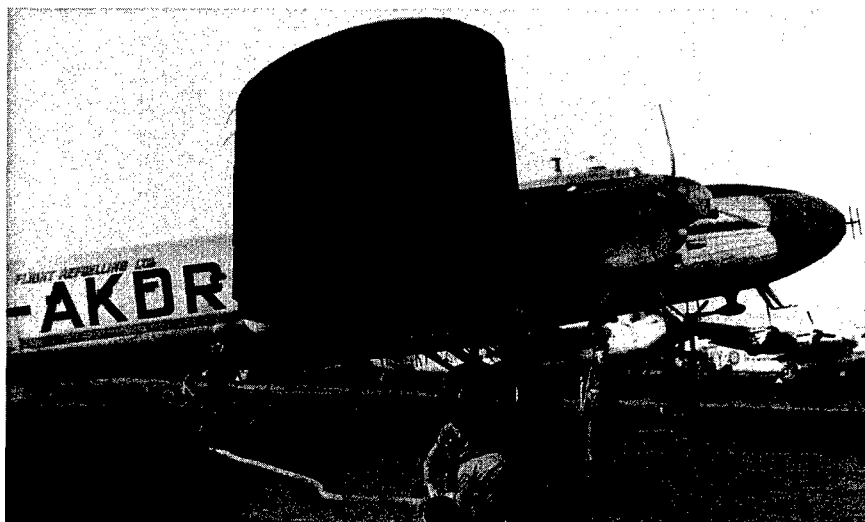
One area in which the British effort differed significantly from the American was the use of civilian aircraft under contract. The Royal Air Force lacked a sufficient number of transports and turned to civilian firms to carry a portion of the load. Additionally, several private firms had specialized aircraft that could meet some of the unique requirements of the airlift. Flight Refueling, Ltd., a private company with extensive experience delivering aviation fuel, offered its services shortly after the airlift began. The company owned several Avro Lancastrian tankers, a transport version of an interim commercial airliner modified to carry liquid fuel. A Lancastrian made its first flight into Berlin on July 27, flying all the way from Tarrant Rushton in Dorset. While this was taking place, discussions between the Foreign Office, Air

Ministry, and Ministry of Civil Aviation in London led to an agreement for wider use of commercial aircraft. The civilian fleet began with ten Dakotas based at Fassberg and two Short Hythe flying boats, the civilian version of the Sunderland. Additionally, one Handley Page Halton and one Consolidated Liberator were chartered and based at Wunstorf.¹³¹

The civilian firms flew a variety of other aircraft beyond the Dakotas. The Bristol Freighter's nose-loading capability and four-ton payload made it extremely useful for awkward cargo. The Handley Page Halton, a conversion of the Halifax bomber into liquid fuel tanker, had a payload of six to eight tons. A pannier slung under the fuselage also allowed it to carry salt without incurring damage. Like the Avro Lancastrian mentioned above, the Avro Tudor was another liquid fuel tanker.¹³²

Use of civilian contract aircraft posed serious problems. The companies and their aircraft varied greatly in resources, procedures, efficiency, and operating standards. Created largely for charter work over long distances, the civilian firms were poorly prepared and ill equipped for high-intensity, sustained operations. The company managers tended to do things their own way, and the fact that they operated almost exclusively during daylight played havoc with RAF crew and maintenance schedules. Problems with supplies, parts, maintenance, and integration into the RAF operations provided continued challenges. Despite such problems, the RAF successfully folded the civilian operations into the airlift, and they made a significant contribution to its success.¹³³

Perhaps their most important contribution was delivering liquid fuels. By the end of 1948, the liquid fuel stocks in Berlin had been drawn down and the



"Delivering liquid fuels." A civilian Avro Lancastrian belonging to Flight Refueling, Ltd., discharges liquid fuel at RAF Gatow in Berlin. (Crown copyright, Air Historical Branch, Ministry of Defence.)

city became dependent upon fuel delivered by the airlift. Plans called for a fleet of thirty-one tankers to deliver 220 tons per day by January 1, 1949, but on that date the British had only eleven tankers delivering about 148 tons per day. By the end of the month, however, some twenty-seven tankers—thirteen Haltons, nine Lancastrians, and five Tudors—were in operation. Two Liberator tankers joined the airlift in mid-February. These, however, overtaxed the facilities at Wunstorf and Schleswigland. Schleswigland and Gatow in Berlin had fixed underground systems. Wunstorf lacked such a system until late in the airlift. Until then, fuel was pumped from “cistern wagons” positioned on the rail spur servicing the base into fuel trucks, or “bowzers,” in the proper amount for each type of aircraft. This was an adequate process, but complicated by numerous equipment breakdowns. The Shell Oil Company controlled defueling at Gatow; the Standard Oil Company operated the process at Tegel.¹³⁴

All told, forty-one Haltons, nineteen Dakotas, seventeen Lancastrians, nine Tudors, four Bristol Freighters, three Hythes, three Liberators, three Yorks, two Vickers Vikings, and two Bristol Wayfarers comprised the civilian fleet that flew cargo to Berlin. Twenty-five separate civilian companies provided 104 aircraft during the airlift. Ultimately, the civilian fleet flew 21,921 sorties to Berlin, delivering 146,980 tons of cargo. Created and mostly run on a shoestring by World War II veteran fliers, these companies found the Berlin Airlift to be their greatest opportunity and greatest success. Most had gone bankrupt by 1950.¹³⁵

By the end of 1948, Operation Plainfare had settled into a pattern. RAF Hastings carrying coal and civilian Haltons and Liberators delivering liquid fuel operated from Schleswigland. Lübeck-based Dakotas handled food and some coal. Civilian Haltons and Bristol Freighters from Fuhlsbüttel delivered food, salt, and a variety of bulky freight. From Wunstorf, RAF and civilian Yorks carried food, coal, and supplies for the British occupation forces and civilian Lancastrian and Tudor tankers ferried liquid fuel. Finally, American Skymasters based at Fassberg carried coal, while those at Celle carried both coal and food.¹³⁶

To Stay or Go?

On July 16, Cornelius V. Whitney, Assistant Secretary of the Air Force for Matériel, gave a pessimistic view of the airlift's prospects to the National Security Council. The maximum cargo capacity of 180 C-54s and 105 C-47s, he reported, was only about 3,000 tons per day and the British limit was about 1,000 tons, well below the 5,300 tons required. Worse, the ability to sustain even these levels was questionable. The runway at Tempelhof was breaking up, and the aircraft were deteriorating because of lack of proper maintenance and facilities. He also stated a major air force fear: supporting Berlin would require the air force's entire transport reserve, which would be lost in the event of war. Whitney concluded that “the Air Staff was firmly convinced that the

air operation is doomed to failure." Others echoed his comments. Robert Lovett agreed that the airlift was an "unsatisfactory expedient," while Secretary Royall, expressing a prevailing opinion, maintained that it could not last through the winter. The secretary of the army wanted to continue the airlift, however, because it enabled the government to delay a decision on breaking the blockade with an armed convoy. The members of the National Security Council generally agreed that the airlift could not be continued after October and deferred a decision on sending additional aircraft.¹³⁷

At the highest level, the commitment to remain in Berlin for the immediate future was firm. On July 19, President Truman met with Secretaries Forrestal and Marshall. Marshall pointed out that Soviet aspirations had been thwarted in Italy, Greece, and France; had been reversed in Finland; and had been severely shaken by Josef Broz "Tito" of Yugoslavia. Failure in Berlin, Marshall expounded, would jeopardize the current trend in halting communism. Truman agreed and reaffirmed his commitment to remaining in Berlin.¹³⁸ Yet again, there was little faith in the airlift as a means of sustaining the city for more than a few months. "The airlift by that time had begun to demonstrate its power," Forrestal wrote, "immediately the situation was a trifle easier; but the long-term possibilities were formidable."¹³⁹

On July 22, 1948, General Clay met the National Security Council with President Truman in attendance. Clay was adamant and in fine form. He urged that everything be done to ensure that the United States stay in Berlin. He lauded the commitment of Great Britain and France, and extolled the steadfastness of the German people and Berlin's city magistrat, but he needed additional airlift support, or the airlift might let them down. USAFE was operating, he reported, fifty-two C-54s and eighty C-47s, which were averaging about 250 landings per day. Seventy-five C-54s would provide the capability to deliver 3,500 tons per day, which, with the British delivering 1,000 tons, would increase the capacity to 4,500 tons. Clay emphasized that the Soviets would not risk war. Intelligence verified the lack of troop movements and preparations for combat. Their threats to interfere with the corridors had proven to be propaganda. The Soviets might harass Clay's airplanes, but he foresaw little probability of serious interference.¹⁴⁰ Clay concluded with a ringing description of the airlift's impact:

The air lift has increased our prestige immeasurably. It has been impressive and efficient and has thrown the Russian timetable off.

Two months ago the Russians were cocky and arrogant. Lately they have been polite and have gone out of their way to avoid incidents.¹⁴¹

In response, Hoyt Vandenberg expressed deep reservations about what the airlift would do to the air force's worldwide responsibilities. He again pointed out that a complete commitment would disrupt MATS operations, threaten its supporting infrastructure, tie up aircraft intended for emergency use, and expose them to destruction if hostilities erupted. Not only its airplanes, but MATS aircrews, maintenance personnel, parts, and spares would have to be diverted to Germany. Further, Vandenberg stressed that a depot would have to

be established in England with a sub-depot in Germany manned with MATS maintenance personnel, and a full air force effort would require the construction of at least one more airfield in Berlin. Clay responded that a location in Berlin for the additional airfield had already been surveyed, and German manpower was available to carry out the construction using materials available locally. Delivery of paving equipment would take the equivalent of one day's cargo away from the airlift.¹⁴²

Notwithstanding these concerns, however, Vandenberg expressed faith in the air force's airlift capability, if it were committed completely. "If we decide that this operation is going on for some time, the Air Force would prefer that we go in wholeheartedly," he told the NSC. "If we do, Berlin can be supplied."¹⁴³

As a result of this discussion, the NSC agreed that construction of the new field in Berlin should begin immediately and approved Clay's recommendation for seventy-five additional C-54s, with a decision to be made on additional aircraft in the near future. Finally, the NSC "reiterated the determination to remain in Berlin in any event." It was this document that would be cited over the next few months as justification for increasing the number of aircraft assigned to the Berlin Airlift.¹⁴⁴

But doubts persisted. Only a few days later, on July 26, the Joint Chiefs of Staff reported that the full commitment of air transport would enable the United States to meet the minimum requirements of Berlin. But, they emphasized, the airlift would probably fail if it had to continue. They further warned that a full commitment would seriously impact the essential support that the Military Air Transport Service provided to the air force's emergency war plans. The airlift also threatened existing stocks of gasoline, and its costs were certain to increase dramatically as the airlift expanded.¹⁴⁵ The chiefs recommended that negotiations continue and another alternative be sought:

It is assumed that diplomatic effort together with all practicable counter-pressure will continue to be used to arrive at peaceful solution of the Berlin problems. In this connection, it may not be altogether out of the question to consider, during the time that is to be gained by concentration of major effort on air transport supply, the possibility that some justification might be found for withdrawal of our occupation forces from Berlin without undue loss of prestige.¹⁴⁶

Diplomacy Fails

While the Pentagon vacillated and USAFE set the air bridge to Berlin in motion, efforts to resolve the crisis through diplomatic measures continued. On June 29, Marshal Sokolovsky suggested to General Robertson that the blockade could be lifted, but that step required discussion of the results of the London Conference.¹⁴⁷ A few days later, on July 3, the three Western commanders, Clay, Robertson, and Koenig, met with a polite but forbidding Sokolovsky who interrupted their protests over Soviet actions with the bald assertion that "technical difficulties" would continue until the West abandoned its plans for a West

German government. This, according to Clay, was the first Soviet admission of the real reason behind the Berlin blockade. There was nothing further to discuss, Clay recalled, and "our farewell was as cold as our reception."¹⁴⁸

When it became evident that discussions at lower levels would not lead to a solution to the blockade, American, British, and French leaders sought to have their ambassadors in Moscow meet with Stalin himself. During a meeting on August 2, Stalin stressed his opposition to the unification of the Western occupation zones into a single entity. He was willing, he said, to lift the blockade upon the receipt of assurances that the London Conference decisions would be postponed until all aspects of the German question were considered by the four powers and when the B marks were withdrawn from Berlin. American Ambassador Walter Bedell Smith was pleased following the meeting with Stalin, and State Department personnel in Moscow for the negotiations reported that the Soviet dictator and Molotov had agreed to lift the blockade seemingly on terms the United States could accept. Writing recently, a historian of the period concluded that the meeting with Stalin was an error. It confirmed in the dictator's mind that he was master of the situation, that the Western powers were weak, and that the Soviet Union needed only continue the pressure. While subsequent negotiations with Molotov appeared to go well, the hopes of the Western powers were quickly dashed. By August 10, both the United States and British had been disillusioned by Soviet language that looked forward to the end of four-power control of Germany and suggested that the Western powers were in Berlin by sufferance, not by right.¹⁴⁹

The Soviets drafted a proposed joint communiqué on August 15 that essentially announced complete victory for the Soviet Union. The communiqué stated that the B marks would be withdrawn from Berlin; that a meeting of the Council of Foreign Ministers would be convened in the future to consider outstanding questions affecting greater Germany and Berlin; and that the representatives of the three Western powers would announce that the question of creating a government for West Germany would be tabled.¹⁵⁰ In staking out this position Stalin and Molotov, gambling that the airlift would fail, ignored possible compromise with the Western powers.

The communiqué never became operative. On September 1, a parliamentary council convened to write a constitution for the new West Germany, ending Soviet hopes that the Western powers would accept the Soviet position in any form. Subsequent talks between Molotov and representatives of the Western powers on September 18, concerning control of the currency in Germany showed that the Western powers were still willing to compromise, but Molotov failed to seize this opportunity.¹⁵¹

Negotiations between the military governors in Berlin, on September 5 and 6, over technical details proved fruitless. Sokolovsky appeared to renege on Stalin's agreement to end the blockade and, at the close of the meeting, he increased the pressure on the airlift by announcing Soviet air exercises in the Berlin area, including in the corridors. At the same time, Soviet-sponsored riots in Berlin, combined with the threat to the air corridors, appeared to form

a pattern of persistent Soviet pressure designed to force the Western powers into signing an unfavorable agreement that would force them out of Berlin, to place the responsibility of any breakdown in negotiations on Great Britain and the United States, or to provoke the Western powers in an overt act that could justify a Soviet attack.¹⁵²

On September 14, the Western diplomatic representatives presented an aide-mémoire charging that Marshal Sokolovsky's intransigence had stalled the talks in Berlin. The Soviets replied on the 18th, blaming the Western powers for the breakdown and repeating the demand that Soviet control be extended to civil aircraft traffic. Clearly, according to Clay, they did not intend to work toward an agreement. On September 24, the Soviet government presented its own aide-mémoire, which Clay described as, "the usual combination of half-truths, distorted facts, and malicious charges."¹⁵³ The Western powers responded by placing Berlin before the Security Council of the United Nations. Marshall summarized the Western position to Dr. Philip C. Jessup, the American representative on the Security Council: the United States wanted the blockade lifted, but would not negotiate under duress. The United States was prepared to allow the Soviet mark to be the only currency in Berlin, but only under adequate four-power control. Above all, Marshall told Jessup, "we will not, repeat not, be forced out of Berlin."¹⁵⁴

It cannot be overemphasized that the Berlin Airlift played a crucial role in the diplomatic dealings with the Soviet Union. "The air lift into Berlin alone has given us time for these negotiations and time to present the case before the United Nations," Secretary Royall wrote to Secretary Symington on September 26. "Without the air lift we would long ago have been faced with the alternative of either using force to maintain communications for the supply of Berlin or to have withdrawn from Berlin in virtual defeat."¹⁵⁵

By the end of September, Stalin appears to have been at a loss as to what to do next other than continue the blockade. Negotiations with the Western powers had failed to influence developments in his favor, while Soviet-sponsored riots and an attempt to stack the municipal government of Berlin with pro-Soviet appointees in early September had miscarried, causing the Western powers to harden their position. Worse, the airlift was now dividing Germany into the two separate camps that the dictator feared. In response, Stalin avoided the Western ambassadors, postponed a meeting with East German officials, and went on a ten-week vacation. For all practical purposes, he thus fell back on the mighty partner that had enabled Russia to destroy Napoleon's army over a century earlier and the Soviet Union to defeat Hitler's forces less than five years before—Russia's great ally, "General Winter."¹⁵⁶

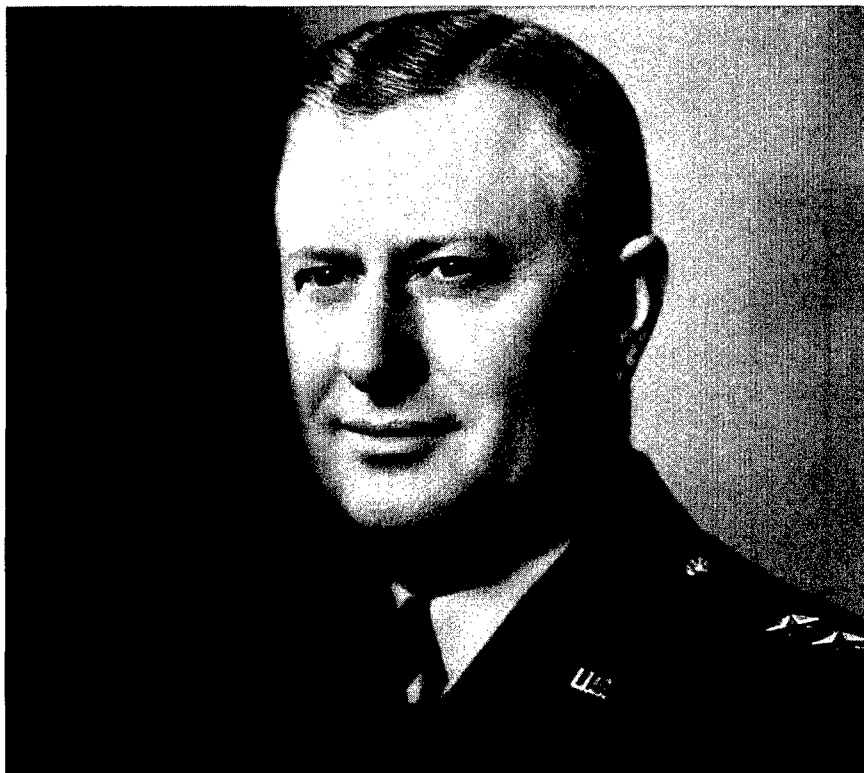
The Western powers were still willing to negotiate, but in the face of Soviet intransigence they had no other alternative than to allow the diplomatic process to wend its way slowly through the United Nations. The airlift, the operation that enabled Western diplomats to deal with the Soviets without undue duress, would have to continue to serve that function. "We must look forward now to supply Berlin through the winter," Royall continued in his

September 26 letter to Symington. "This will mean increasing further the present air lift capacity."¹⁵⁷

Western leaders, with negotiations stagnant and without other viable options, thus ended up gambling, betting all on a roll of the dice in an operation that few really believed would succeed. They wagered Berlin, Western Germany, and the American position in postwar Europe on the steady thunder of Pratt & Whitney engines.

William H. Tunner

On July 28, 1948, a C-54 touched down at Wiesbaden, and forty-two year old Maj. Gen. William H. Tunner stepped out. Tunner was a brilliant, dedicated, meticulous leader whose steel-blue eyes and index-card mind missed nothing. A workaholic, he labored long hours at an intense pace and drove his staff relentlessly.¹⁵⁸ Tunner was one thing more—he was the U.S. Air Force's preeminent authority on air transport. An admiring Curtis LeMay called him "the



"The transportation expert to end transportation experts." Brilliant, dedicated, meticulous, Maj. Gen. William H. Tunner was the U.S. Air Force's preeminent authority on air transport. (*U.S. Air Force.*)

transportation expert to end transportation experts," and later wrote that his assignment to the airlift "was rather like appointing John Ringling to get the circus on the road."¹⁵⁹

Tunner's credentials validated his reputation. He had helped create the U.S. Army Air Forces Ferrying Command at the beginning of World War II, and his imagination, determination, and organizational skills had made flying "the Hump" into China legendary. After World War II, however, Tunner spent much of his time closing bases and dismantling the powerful air forces that had been instrumental in victory. Military air transport appeared to have little future, and he considered leaving the service. His sense of duty prevailed, however, and when Air Transport Command combined with Naval Transport Command to form MATS in mid-1948, Maj. Gen. Lawrence S. Kuter selected Tunner as his deputy commander for operations. While USAFE delivered cargo to Berlin, Tunner had chafed at his desk. He believed fervently that, despite increases in tonnage delivered, the bomber people operating the lift needed his knowledge and experience. To a veteran airlifter, elements of the airlift most celebrated by the press—air crews flying until they were exhausted, pilots on the USAFE staff rushing to the flightline to fly any aircraft standing on the tarmac, and frantic hustle and bustle—were signs of inefficiency. He wanted to put things right. Frustrated at having to sit on the bench, and by the fact that USAFE was doing the mission for which MATS had been created, he pressed Kuter to propose that MATS take responsibility for the airlift. Kuter declined, and Tunner stewed.¹⁶⁰

But not for long. Lt. Gen. Albert C. Wedemeyer, Director of Plans and Operations of the General Staff, had commanded in China during World War II and he knew Tunner well. If the Berlin Airlift must succeed, he told Hoyt Vandenberg, then it required the man who had operated the Hump. Vandenberg apparently had not considered sending Tunner until after the July 22 meeting of the National Security Council. When it became apparent that the airlift would be expanded, however, Vandenberg determined to send the best. Tunner went to Germany, and with him came some of his old hands to make the airlift work: Lt. Col. Robert D. "Red" Forman as chief of operations; Lt. Col. George W. Knight as director of traffic; Col. Orval O. McMahon as chief of supply; Lt. Col. Kenneth S. Swallow as director of air installations; Lt. Col. Manuel "Pete" Fernandez as chief of communications; Maj. Harold H. "Hal" Sims as chief navigator; and Maj. William P. Dunn as chief of maintenance, with Maj. Jules Prevost as his assistant. Although others, like chief of staff Col. Theodore R. Milton, had no connection with the Hump, the red, white, and blue insignia of the China-Burma-India Theater quickly became a common sight in Germany.¹⁶¹

Tunner came to Germany convinced that the Berlin crisis was "the first conflict between the free and the slave world." And this belief led to one conclusion: "We can't afford to lose it."¹⁶² The Berlin Airlift at the end of July 1948 contrasted sharply with Tunner's ideal. He later described his vision of an airlift in plain, often quoted words:

The actual operation of a successful airlift is about as glamorous as drops of water on stone. There's no frenzy, no flap, just the inexorable process of getting the job done. In a successful airlift you don't see planes parked all over the place; they're either in the air, on loading or unloading ramps, or being worked on. You don't see personnel milling around; flying crews are either flying, or resting up so that they can fly again tomorrow. Ground crews are either working on their assigned planes, or resting up so they can work on them again tomorrow. Everyone else is also on the job, going about his work quietly and efficiently.¹⁶³

Under Tunner the monotony of repetition replaced the romance of flying. The more humdrum things were, the better. "The real excitement from running a successful airlift," he summarized, "comes from seeing a dozen lines climbing steadily on a dozen charts—tonnage delivered, utilization of aircraft, and so on—and the lines representing accidents and injuries go sharply down. That's where the glamour lies in air transport."¹⁶⁴ Tunner was determined to establish an airlift that functioned with machine-like efficiency. Only this type of organization could move sufficient food and fuel to defeat the Soviet blockade.

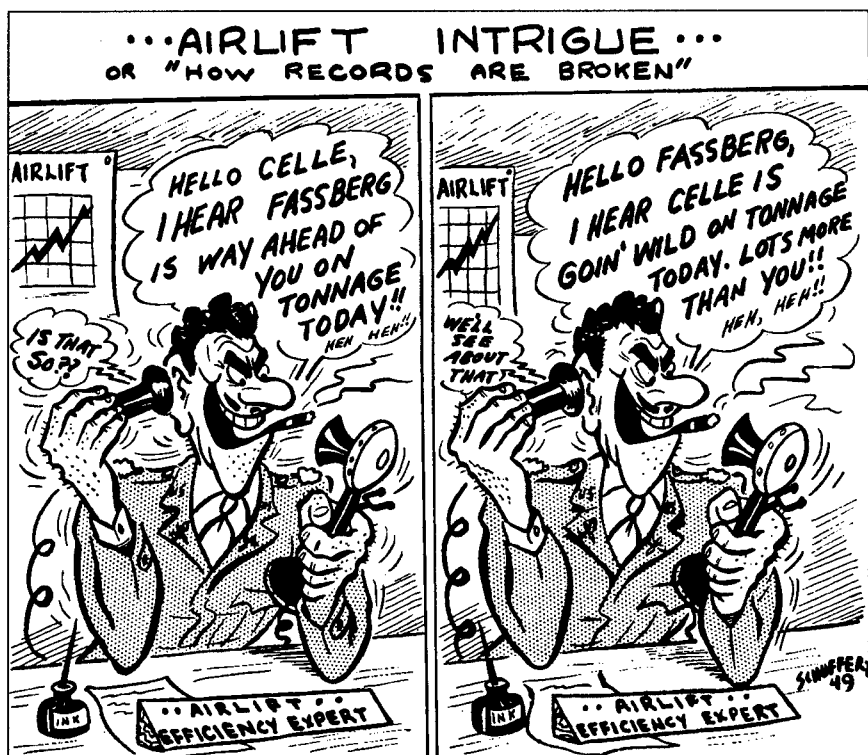
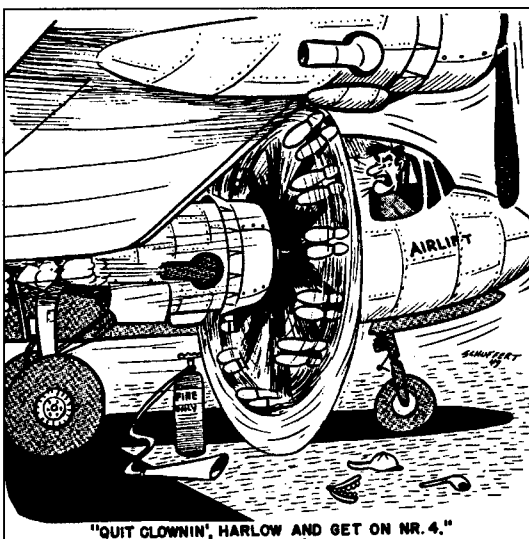
Tunner's approach required the careful coordination of every aspect of the airlift, including detailed procedures and exact duplication and precise execution of each phase of the operation, from loading cargo to the return landing. Aircraft maintenance teams, aircrews, supply personnel, and thousands of lesser-known activities were sharply regimented. Everyone performed their duties according to strict directives, and statistical charts and tables tracked the process at every stage. Tunner wanted all activities to take place in a constant, unvarying cadence. "This steady rhythm, constant as the jungle drums, became the trade-mark of the Berlin Airlift," he later wrote. "I don't have much of a natural sense of rhythm, incidentally. I'm certainly no threat to Fred Astaire, and a drumstick to me is something that grows on a chicken. But when it comes to airlifts, I want rhythm."¹⁶⁵

Tunner emphasized the use of all 1,440 minutes of the day. He dreamed of landing one airplane every minute, an almost impossible goal in 1948 but an accurate indicator of the proficiency he sought. Ultimately, he settled for the more practical rate of a landing every three minutes that Joe Smith had established. This rate, he noted, "provided the ideal cadence of operation with the control equipment available at the time." He explained: "At three minute intervals, this meant 480 landings at, say, Tempelhof, in a twenty-four hour period. Ultimately, under ideal circumstances, this schedule could mean 1,440 landings daily at three air fields."¹⁶⁶ Tunner viewed the corridors between Western Germany and Berlin as a conveyor belt with aircraft spaced evenly along the route. All the aircraft moved at the same speed, executed their maneuvers at the same spot, and followed the predetermined schedule to the second. Like a conveyor belt, the airlift could be slowed down or sped up as necessary, but it was relentless in its regimentation.¹⁶⁷

Tunner practiced an intense, personal style of leadership. He worked eighteen hours a day, often sacking out on a cot in his office, and not all of that work was accomplished behind a desk. He visited flight lines, hangars, loading and unloading facilities, and the maintenance lines. He observed, talked, and, above all, listened. Air crews met him as they climbed from their aircraft; maintenance personnel saw him studying repair work at midnight; control tower operators found him looking over their shoulders at three in the morning. In the dark, wearing his worn flight jacket or covered with coal dust, he often appeared to be just another officer, slightly older than most. Airmen laughed at the story of the pilot who ordered Tunner to "shake a leg and get a move on." Visits, discussions, and casual talk often led to immediate changes. When pilots complained about their aircraft being sluggish on take off, for example, he noticed that all of the complaints came when they were hauling coal. He visited the Main River where German workers loaded coal from barges into 100-pound sacks. Noting that the workers only weighed one sack out of every hundred, he ordered fifty bags checked immediately. These weighed, he found, weighed an average of 115 pounds. In their zeal to see that every pound of coal possible reached Berlin, the workers were overfilling the bags. Aircraft were taking off with 15 percent more weight than the crew believed. Tunner immediately ordered that every bag be weighed.¹⁶⁸

The difficulty motivating personnel uprooted from their homes and families, thrown into uncomfortable quarters, required to fly long hours, and not knowing when the lift would end would tax the ingenuity of any commander and morale was a priority on the airlift. Major Sims suggested establishing a newsletter, and he became its editor. The *Task Force Times*, which kept the airmen "in the loop," was Tunner's pride. And in the radioman on his own airplane, Tunner found a talented cartoonist in John H. "Jake" Schuffert, whose uncensored cartoons poked fun at every aspect of the airlift and captured its essence for everyone. Above all, Tunner pushed competition as the antidote to ennui. He set goals for each base and recorded the results on huge "Howgozit" boards for everyone to see. The *Task Force Times* also publicized the efficiency of each unit, and Tunner rewarded those with the best daily records. As will be described later, Tunner sponsored special cargo delivery efforts including one on Air Force Day, September 18, 1948, and the fabled "Easter Parade," on Easter Sunday in 1949.¹⁶⁹ He pitted commanders against each other with gusto. During the Easter Parade, Tunner visited Celle, which was delivering 12 percent more cargo than its quota. He then traveled to Fassberg, where he found the commander boasting of delivering 10 percent more cargo than his quota. "That's fine, but of course it's not up to what they're doing over at Celle," Tunner responded. "They're really on the ball over there."¹⁷⁰ By the time Tunner left Fassberg, its commander had charged down to the flight line to urge his people to redouble their efforts.

While Tunner cared for his men and made every effort to improve living and working conditions, he ultimately was a hard-nosed, determined commander deeply committed to the success of his mission. William H. Tunner



"A talented cartoonist." SSgt. John H. "Jake" Schuffert captured the humor of the airlift. (All cartoons courtesy, John H. Schuffert, Alexandria, Virginia.)

was called many things in his lifetime: "Tonnage" Turner has the ring of a public affairs effort, and Representative L. Mendel Rivers called him "Mr. Airlift" in later years; but, thanks to his ruthless drive for absolute precision on the Berlin Airlift, the nickname that stuck was "Willie the Whip."

Airlift Task Force (Provisional)

With Turner came more Skymasters. At the time General Clay met with the National Security Council on July 22, USAFE had 54 C-54s and 105 C-47s assigned to the airlift. Following the decision to augment Operation Vittles, General Vandenberg, on July 23, directed MATS to form a task force consisting of nine squadrons of C-54s. Three crews manned each aircraft, and these comprised roughly two-thirds of the C-54 aircrews available worldwide. The decision to commit MATS drew deeply on scarce American airlift assets. The United States had a total of 866 C-54s and their variants, both military and civilian. Most were with MATS, which had 214 Air Force C-54s and 54 Navy R5Ds, a total of 268. The air force troop carrier groups had an additional 168. Beyond these, the air force had another forty or so and the Navy another eighty in various commands doing miscellaneous duties. Outside of the military, scheduled civilian airlines had 267 C-54s, 41 leased from the air force, while nonscheduled airlines had another 44. From these, and subtracting those already in Germany, air force planners calculated that 393 C-54s could be made available to the airlift in an extreme emergency. The first of these squadrons began arriving on July 30, and all had reached Germany by mid-August, giving the airlift a total of 126 C-54s.¹⁷¹

Turner's orders placed him in charge of airlift operations at the three bases already in use, Rhein-Main, Wiesbaden, and Tempelhof. In addition to these, he also took charge of Oberpfaffenhofen and any other depots required for heavy maintenance; the Frankfurt Air Traffic Control Center and any other centers required for control of the airlift; and all airplane operations in the Frankfurt-Berlin air corridors. He was further authorized direct communications with the Military Air Transport Service and the U.S. Army's European Command. On July 29, Turner established his headquarters as the 7499th Air Division. Two days later he activated the Airlift Task Force (Provisional).¹⁷²

Command, however, would remain a problem throughout 1948. In Turner's view, the Berlin Airlift should have been a MATS operation from the beginning. The fact that it began as an informal USAFE operation using resources already in Germany and was viewed as a short-term, temporary program kept MATS from taking charge. This fact meant that the airlift commander reported to the USAFE commander, and had to go through HQ USAFE to communicate with individuals and headquarters critical to the airlift's success, including General Clay, Military Air Transport Service, and Air Matériel Command. Further, certain USAFE facilities vital to the success of the airlift—the supply depot at Erding, the maintenance depot at Burtonwood, the base facilities necessary for his men's comfort, for example—were outside



"A veteran commander of fighters." Lt. Gen. John K. Cannon succeeded General LeMay as Commander-in-Chief, United States Air Forces in Europe, in mid-October 1948. (*U.S. Air Force.*)

Tunner's control. As long as LeMay was USAFE commander, this arrangement posed comparatively few problems. Mutual admirers, LeMay and Tunner worked well together, and LeMay allowed his airlift commander freedom to deal with other headquarters. When Lt. Gen. John K. Cannon replaced LeMay, according to Tunner, the situation changed for the worse at a critical time.¹⁷³

Tunner's first inkling of a problem took place over the agreement that established the Combined Airlift Task Force. LeMay had made unified command a major priority and had worked diligently with Tunner to overcome British opposition to the unity both men saw as vital. USAFE and BAFO signed the agreement on October 14, the day before LeMay left Germany. On the day after LeMay departed, Tunner, as custom required, paid a visit to his new boss, who greeted him with a roar of anger over the agreement. Tunner pacified Cannon with the explanation that the negotiations had been lengthy and com-

plex, and that he and LeMay had hoped to conclude them before Cannon's arrival and not burden him unnecessarily. This explanation seemed to please Cannon, but relations between the two men remained poor. Tunner later acknowledged that he caused a good deal of the problem. As a brash, young expert on air transport, he viewed Cannon as an aging fighter commander with little knowledge of airlift and treated him with less deference than was politic. Cannon, on the other hand, found that he had a rather freewheeling operation under his command and was determined to bring it under complete control.¹⁷⁴

Tunner's letter of instruction from Cannon specifically prevented him from dealing directly with Military Air Transport Service, Air Matériel Command, and almost everyone of significance. All contact had to be made through USAFE headquarters. The impact on Tunner's operations, he later complained, was critical. He could no longer get immediate action. Once, four days after he had requested special personnel they were on the runway in Germany. Now, he was lucky to get the request through USAFE in four days. Housing for airlift personnel was critical and ground transportation inadequate. Tunner could only send requests to USAFE Headquarters, which responded slowly. Burtonwood proved a special problem. Tunner counted on seven 200-hour inspections per day at that facility, and had transferred maintenance personnel from the airlift to ensure that rate. In November, however, output at Burtonwood fell to two inspections per day, which figured to be a loss of 35 aircraft per week or 150 per month. Burtonwood was near Liverpool. The location was bleak, the food terrible, the housing poor, and the weather English. Necessary supplies, equipment, and tools failed to arrive from the United States. The local commander was capable. The problems lay at a higher level, but since Tunner could not talk directly to Air Matériel Command, he could do little. Instead of action from USAFE, he later fumed, he received promises and excuses. Finally, Tunner shifted responsibility for the 200-hour inspections back to the squadrons, which, short the men transferred to Burtonwood, had to do double duty.

All of this took place just as the airlift entered its most critical month. November was the low point of the airlift. Bad weather, especially fog, set in. The airlift managed to deliver some cargo every day, but on many days deliveries were well below the airlift goals. On the 30th, for example, just ten out of forty-two aircraft that took off actually reached Berlin. Tunner's men delivered the least amount of tonnage during the airlift in November, and the month came close to justifying Soviet intransigence. Conquering November became a major turning point in the success of the airlift, and, in Tunner's view, that goal was hampered by the command system and his relationship with Cannon.

The airlift, Tunner later wrote, struggled into December and the Christmas season, and Bob Hope, of all people, became the problem in miniature. Word came that Hope would bring a Christmas show to entertain the airmen delivering freedom to Berlin. He was eagerly anticipated. On December 23, Tunner learned that Hope would give two shows—one downtown in Wiesbaden and another downtown in Berlin. Neither would be at an airlift base where airlift

personnel could see them. Turner exploded. He sent an ultimatum to USAFE; either Hope entertained the airlift, which had attracted him to Germany in the first place, or all mention of the airlift must be removed from advance publicity, something the American press would have noticed and questioned. Within 24-hours USAFE gave priority for the show to all airlift personnel, and three additional performances were scheduled for airlift bases.

It took Secretary of the Air Force Stuart Symington to break the logjam. He toured Rhein-Main on Christmas Day, poking and prying, talking to the men, and asking pertinent questions. He learned from the men themselves about the poor living conditions and the shortages of suitable tools, equipment, and parts, things Turner had been complaining about for weeks. Following his tour, Symington demanded facts and figures and thorough descriptions of the problems. The response to Turner's detailed report on airlift problems, given to the Secretary on December 27, was immediate. According to Turner: "Orders came down to requisition better housing, and construction began on emergency barracks. Burtonwood was shaken up from top to bottom, and the increase in two-hundred-hour inspections began almost immediately. Long-needed supplies began flowing in. Frankly I was amazed at both the amount and the immediacy." In addition, the Air Force established a rotation policy, ending one of the worst morale destroyers, the extended TDYs. Problems remained: "It was still somewhat difficult operating under an unsympathetic command, and I am still convinced that we could have performed our mission more successfully had we had greater authority to run our own show," Turner later recalled, "but at least from then on we had sufficient tools to work with."¹⁷⁵

Operational control of the airlift became a concern as the airlift grew. General LeMay and Air Marshal Sir Arthur P.M. Sanders, Air Officer Commanding, BAFO, both agreed that their goal was to lift the "maximum tonnage in the safest and most expeditious manner possible, with [the] resources at hand and that some form of joint control of air traffic is required."¹⁷⁶ From here, the two positions diverged. The British wanted the USAFE traffic control center at Frankfurt and British center at Bückeburg to operate independently, coordinating their activities through the Airlift Task Force Headquarters in Wiesbaden and BAFO in Bückeburg. In the Berlin air control area, where the streams of aircraft merged as they approached Gatow and Tempelhof, they proposed a form of joint control with a "master controller" who alternated between the Americans and the British.¹⁷⁷

LeMay and Turner, on the other hand, wanted to place operational control of all air traffic in and out of the airfields and through the corridors under one headquarters. "I feel that the basic principle involved is the necessity for vesting in one commander operational control... of all units as they become involved in the airlift effort," LeMay told Vandenberg. "I do not visualize this one commander assuming personnel, logistics, and administrative, maintenance, or operational control... of these operating units, but I do visualize his asserting some control over such matters within these units during the time they are actively engaged in the airlift effort."¹⁷⁸ Cutting minutes, even sec-

onds, off every aspect of the process required, in LeMay's view, a closer relationship than coordination would allow. Further, delivering the maximum amount of cargo to the beleaguered city ultimately meant basing U.S. aircraft in the British occupation zone, making joint control a necessity. Finally, since the bulk of the airlift fell to USAFE, LeMay wanted Tunner in command.¹⁷⁹

Planning for basing C-54s at RAF Station Fassberg had already begun. General Smith, as noted above, had approached the British about using one of the RAF bases in July. Fassberg offered three distinct advantages over the two U.S. bases: it was close to the port at Bremen; its fifty-five minute flying time to Berlin was less than half that from the Frankfurt area; and it tended to have better weather conditions. Studies projected that twenty-seven C-54s operating from Fassberg would deliver 988 tons in an eight-hour day, while twenty-seven based at Wiesbaden would only deliver 518 tons at the same time. Serious negotiations began on August 4, and at a meeting with the British on August 6, the conferees concluded that Fassberg would not require a runway extension for C-54s; the British would continue to load all aircraft; the RAF would maintain runways, hangars, and facilities; and USAFE would provide fuel pumps and the personnel to man them, the parts and equipment for maintenance, and rations for the 407 officers and 1,950 enlisted men planned for the facility. In an interesting "joint" activity, RAF air traffic controllers supervised the air-control system, while USAFE personnel manned the radios so that the C-54 crews might hear an American accent. Personnel from the 7496th Air Wing began to arrive at Fassberg on August 13th, the first supplies on the 16th, and the first refueling units on the 18th. The first of the twenty-seven C-54s reached Fassberg on August 21.¹⁸⁰

In the meantime, one of Tunner's planners, Col. John W. White, began a study on the use of RAF Station Gatow in Berlin. On August 2, the Berlin Airlift Task Force began developing procedures for directing aircraft to either Tempelhof or Gatow depending on which had less traffic. A liaison detachment from Tempelhof, known as the "Gatow Flight," set up at the British base, and, by the end of August, U.S. aircraft were using Gatow, further tying the two airlifts together.¹⁸¹

Several meetings with Air Marshal Sanders in mid-August failed to resolve the command and control issue to LeMay's satisfaction, and he elevated the problem to HQ USAF, asking Vandenberg to raise the issue with the Air Ministry.¹⁸² In the British reply to the Air Force Chief of Staff on September 28, Air Chief Marshal Sir Charles Medhurst, Chief of the British Joint Services Mission in Washington, D.C., reiterated that there was no need for over-all unified command and directions of operations. The Air Ministry believed, he reported, that the two services were operating in separate spheres 140 miles apart using separate fields, corridors, and navigational techniques. The exception was Fassberg, but the Ministry anticipated that the RAF C-47s would soon be transferred from that facility. The Control Center in Berlin should provide the necessary integrated control for that city. At the same time, Medhurst informed Maj. Gen. Samuel E. Anderson, Director of Plans &

Operations, in Headquarters U.S. Air Force, that a new, small Transport Command Task Force would replace the shared control of the RAF airlift element by BAFO and Transport Command. Designated Advanced Headquarters, No. 46 Group, this would be commanded by the Air Officer Commanding, No. 46 Group, Air Commodore John W.F. Merer and would coordinate all of the RAF, USAF, and British civilian airlift operating from the British zone under the overall operational control of BAFO.¹⁸³

In the meantime, during a meeting with Air Vice Marshal C.B.S. Spackman on August 30, LeMay agreed on a temporary arrangement establishing a Joint Traffic Control Center at Tempelhof similar to the British proposal. A committee meeting on September 2 worked out details and the resulting "Task Force Approach Control" handled traffic in and out of Tempelhof, Gatow, and Tegel after its completion.¹⁸⁴

As LeMay expected, the C-54 operations at Fassberg ultimately convinced the British of the need for unified command. The C-54s were allotted six block times for takeoff at 0100, 0500, 0900, 1700, and 2100. Within the blocks, schedules called for the aircraft to take off at three-minute intervals under good conditions; five in poor, and to fly at three altitudes: 2,500 feet,



"Unified command and control in practice." Royal Air Force and U.S. Air Force radar personnel operate ground control approach (GCA) equipment at RAF Gatow in Berlin. Left to right: Cpl. William Black, Aberdeen, Scotland; Flight Lt. Allen Green, Bournemouth, England; MSgt. Wilfred Kranz, Harbor Beach, Michigan; Flight Lt. Edward Attwell, Lincolnshire, England, Cpl. Eric Renshall, Liverpool, England; and Aircraftman Peter Stephenson, Liverpool, England. (*U.S. Air Force.*)

3,000 feet, and 3,500 feet. They flew through the northern corridor and returned, along with C-54s from Rhein-Main and Wiesbaden, through the center corridor. After a C-54 block at Fassberg became airborne, the controller notified BAFO that the corridor was available for the Yorks and Dakotas based at Lübeck. Although the C-54s had little trouble getting block times from the British controllers, it became obvious that the operation of dissimilar aircraft from takeoff through the narrow corridors to landing and return required a single, unified agency. The difficulties coordinating the operations of aircraft with widely varying flight characteristics flying in close proximity in the narrow confines of the Berlin corridors demonstrated the necessity for unified command and control.¹⁸⁵

In early October, Sir Brian Robertson recommended that airlift operations be placed under Tunner, with Air Commodore Merer as deputy. The merger agreement was signed on October 14, and on the 15th the Combined Airlift Task Force (CALTF), headquartered at Wiesbaden, set to the task of delivering to Berlin "in a safe and efficient manner, the maximum tonnage possible, consistent with the combined resources of equipment and personnel made available." On November 5, the U.S. forces involved in the airlift were reorganized as the 1st Airlift Task Force.¹⁸⁶

Der Schokoladen-flieger

As the airlift began to change, it gained an unanticipated but potent symbol. In many ways, 1st Lt. Gail Halvorsen, a quiet Mormon from Garland, Utah, demonstrated all that was best about the Berlin Airlift. Uprooted from his station at Brookley Air Force Base, Alabama, on short notice, Halvorsen had stuffed his duffel bag with handkerchiefs to deal with his raging cold, parked his car near the flightline, and departed for Rhein-Main. On July 17, after several missions, he visited Berlin as a passenger hoping to take movies of the airlift. While filming landings from the cemetery off the end of the Tempelhof runway, he noticed children watching the airplanes. These German children acted differently from other children, Halvorsen noted, as they did not ask for candy or gum. Expecting nothing, they asked for nothing. He divided the only two sticks of gum he had left among them, but then made a rash promise. If they returned to the cemetery, Halvorsen told the kids, he would drop gum and candy from his airplane.¹⁸⁷ They asked him how they would recognize his airplane. "Well, I'll do like I did when I was a kid over Garland, Utah," he told them. "I'd fly up over a farm, wiggle the wings of the airplane at the folks, and let them know that was me."¹⁸⁸

The delivery system Halvorsen invented was pretty basic. The handkerchiefs destined for head cold relief became parachutes instead, and the C-54's flare chute became a "bomb bay." Flying into Tempelhof on the 18th, Halvorsen spotted the children, wiggled his wings, and dropped three parachutes through the flare chute. Happy to have gotten away with the escapade, Halvorsen landed and discharged his cargo. It was just the beginning, however.



"A potent symbol of the Berlin Airlift." *Der Schokoladen-flieger*, 1st Lt. Gail S. Halvorsen of Garland, Utah, and the 17th Air Transport Squadron, rigs some candy bars to miniature parachutes for German children in Berlin. (*U.S. Air Force.*)

In the days that followed the children not only returned, their numbers increased, and they searched each airplane for the one that wiggled its wings. Halvorsen tried to ignore them, but then made a fateful decision: he made six more drops. These failed to satisfy the children and several days later, Halvorsen stumbled across a stack of mail in the Base Operations Office at Tempelhof, all addressed to *Onkel Wackelflugel* (Uncle Wiggley Wings) and *Der Schokoladen-flieger* (The Chocolate Flier).¹⁸⁹

Finally, the airlift headquarters caught on that something strange was taking place, and Halvorsen was ordered to report to his squadron commander, who demanded to know what he had been doing. The lieutenant temporized, but his commander was abrupt: "Look, I am not *stupid*—it's all over the front pages of the Berlin papers," he told Halvorsen. "You nearly hit a journalist on

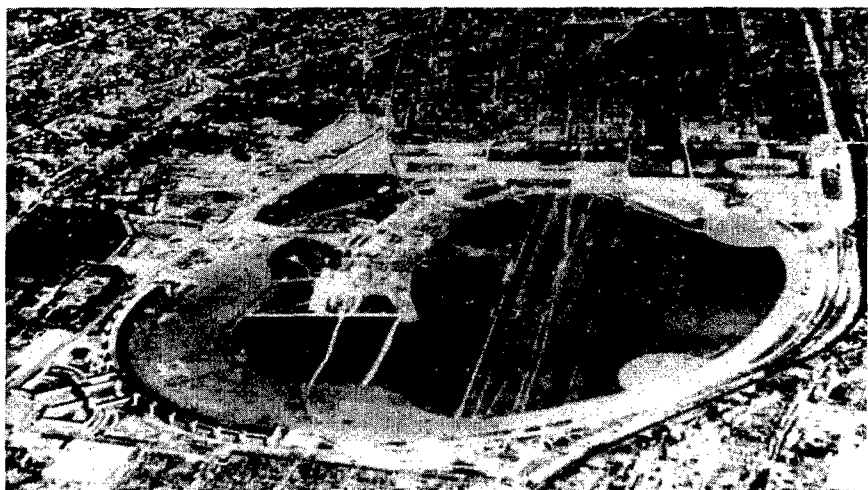
the head with a candy bar.”¹⁹⁰ Then, to Halvorsen’s surprise, he was given the go-ahead to continue the candy drop. Tunner not only approved, he was enthusiastic about the lieutenant’s initiative, which he later called “One of our most delightful cargos.”¹⁹¹

Dubbed “Operation Little Vittles,” Halvorsen’s candy drop expanded at a dizzying rate. Pilots and aircrew from his squadron, dependent USAFE wives, and other military personnel helped supply him with parachutes and candy. Publicity in the United States made him a celebrity, and he began receiving sacks of mail each day, much of it containing handkerchiefs. Candy arrived from all over, including over three tons from the American Confectioners Association. Soon, most of the aircraft from his squadron were dropping candy. Instead of a few parachutes dropped through the flare chute, boxes were emptied out cargo doors. So many children surrounded the perimeter of Tempelhof that they literally became a hazard. Ultimately, Halvorsen was assigned a full-time German-speaking secretary to handle his mail, an unheard of luxury for a lieutenant in the 1940s. *Der Schokoladen-flieger* became the most widely publicized symbol of the Berlin Airlift for hundreds of thousands of Germans and Americans.¹⁹²

The Search for Additional Bases

With the arrival of additional C-54s, crews, and ground personnel in August, congestion and the lack of facilities became a serious problem for both the sending and receiving ends of the airlift. Both Rhein-Main and Wiesbaden had become severely crowded, reducing efficiency at both bases. A long-term program of construction and modernization helped ease the situation, however. Two major decisions in August, while taken primarily for other reasons, also addressed congestion. First, the opening of Fassberg and stationing of twenty-seven C-54s at that base, which took advantage of the shorter distances from the British zone, also eased the pressure on the American facilities. Second, replacement of the C-47s with C-54s, which removed the less efficient aircraft from the airlift, allowed more productive use of existing facilities. Additionally, it is worth noting at this point that by the end of September LeMay and Tunner were developing plans to base forty C-54s at Celle in the British occupation zone beginning in December. Ultimately, the American airlift would dispatch aircraft from four bases, Rhein-Main and Wiesbaden in the American zone and Fassberg and Celle in the British.¹⁹³

The critical choke point, however, was at the receiving end, Berlin. None of the facilities at either Tempelhof or Gatow were built to handle the tremendous pounding by heavily-laden aircraft every few minutes, twenty-four-hours a day, day in and day out. The runway at Tempelhof quickly deteriorated. At the end of June, LeMay’s air engineer surveyed the situation and reported that the runway was rapidly breaking down under the impact of the heavily-loaded C-47s, and that the Skymasters threatened greater damage. He recommended construction of a second asphalt and pierced steel plank runway. This plan



“Runway construction at Tempelhof.” This photograph was taken after construction of the second runway. Contrast this picture with the photograph of Tempelhof prior to the Berlin Airlift on p. 27. (RG 7185, *Helga Th. Mellman Collection*, U.S. Military History Institute, Carlisle Barracks, Pennsylvania.)

received quick approval, and German contractors began work on July 8 on a runway south of the original runway. American enlisted personnel operated the heavy machinery, including graders and bulldozers, while German civilians, both men and women, did the rest by hand. Almost all materials except rubble had to be flown in from the United States occupation zone, adding significantly to the airlift burden. Rubble, readily available thanks to the Allied bombing campaign in World War II, replaced the standard limestone base. Concurrent with construction of the new runway, gangs of German workers maintained the existing runway around-the-clock. The work gangs consisted of crews of German men and women armed with a motley assortment of shovels, picks, crowbars, and other tools. As soon as an airplane landed, they rushed out onto the runway, filling holes and shoring up the surface at a frantic pace. When a piercing whistle signaled the approach of another airplane, they rushed off the runway until it had passed. They then repeated the cycle. USAFE personnel also marked off two sod runways for use by C-47s, thus reducing damage to the main runway.¹⁹⁴

By August, construction on the south runway at Tempelhof was well along, but it was already apparent to Airlift Task Force planners that with more C-54s on the way a third runway would be required. On August 20, LeMay ordered construction to begin on another runway to the north of the main runway. However, even with additional runways, Gatow and Tempelhof were too cramped to meet the projected demands of the airlift. By late July, USAFE survey teams had found a former *Wehrmacht* tank training area in the French sector of Berlin that offered an excellent location for a new airfield. Plans for

Tegel airfield, as it would be known, received approval on August 5.¹⁹⁵

On August 26, Tunner set forth his priorities for base construction to facilitate increased tonnage delivered to Berlin. His highest priority was completion of the south runway and the taxiway at Tempelhof. Work on the north runway would continue, but not at the expense of the south runway. Second, the Air Force must provide every assistance to the British with construction of the parking apron and taxiway at Gatow. These two steps would provide maximum immediate aid to the airlift by permitting quick turnaround at Tempelhof in all weather, and by expediting loading and unloading at Gatow, which would take advantage of the shorter route from Fassberg. Tunner's third priority was the completion of Tegel, which offered the greatest long-run improvement in airlift capacity.¹⁹⁶

Through tremendous effort, German work crews completed the south runway at Tempelhof on September 12. LeMay had expected the third runway to be completed by October 20, but construction took longer and it was opened only on November 23. German crews also began work on Tempelhof's expanded network of taxiways and hardstands on September 17 and completed the project in October.¹⁹⁷

Tegel required a monumental effort. Construction began on August 5 and included a 5,500-foot runway of brick rubble with an asphalt surface, 6,020 feet of taxiway, 4,400 feet of access road, 2,750 feet of access railroad, and over one million square feet of apron. Administrative, operations, and support buildings, a control tower, and ground control approach (GCA) radar sites rounded out the program. General LeMay initially expected completion of Tegel in February 1949, but this estimate displeased an impatient Clay. "I don't accept the February 1949 estimate for Tegel," he tersely told the USAFE commander on August 20th. "It is much too long."¹⁹⁸ Construction followed the pattern at Tempelhof. Over 17,000 Berliners, working three shifts for



"Construction at Tegel." Construction of a parking ramp at Tegel in the French sector of Berlin continued as C-54s stationed at Fassberg maintained a constant stream of traffic. (*U.S. Air Force.*)

slightly over a mark an hour and a hot meal, did the work. Crushed brick provided a solid base for the runway. The city of Berlin razed buildings designated over 60 percent destroyed, and civilians, mostly women, sorted out the whole bricks and loaded them on trucks. They were then crushed at the construction site. American forces furnished essential heavy construction equipment manned by 15 officers and 150 men from the army's Engineering Corps. The airlift delivered critical materials unavailable in Berlin from the Western zones. Ultimately, dedication ceremonies at Tegel took place on October 29, and operations began on November 5, three months after construction began. Subsequently, on March 14, 1949, construction began on a second runway at Tegel. This was a 6,500-foot runway with an additional 1,500-foot base, allowing it to be extended to 8,000 feet if necessary for bigger aircraft. In contrast to the first runway, which was built mostly by hand, the airlift had brought in enough heavy equipment for the work on the second to be done by just over 400 laborers and technicians. The blockade provided an extra impetus for completing the structure, and work was done on August 4.¹⁹⁹

Two aircraft made major contributions to the construction program in Berlin with their ability to deliver bulky, outsized cargo. Development of the Douglas C-74 "Globemaster" began during World War II, and the aircraft first flew in October 1945. Ultimately, Douglas built fourteen of them. A single C-74 reached Rhein-Main Air Base on August 14 for service tests, and made its first trip to Berlin on the 17th with twenty tons of flour. Prior to its return to the United States on September 21, the C-74 delivered 445.6 tons of cargo in twenty-five trips for an average of 17.82 tons per trip, proving itself as superior to the C-54 as the C-54 was to the C-47. Above all, its great size gave it the capability of delivering bulky industrial and construction equipment.²⁰⁰

The second airplane was the Fairchild C-82 "Packet." Fairchild began construction in 1941 of a twin-engine aircraft featuring direct loading through



"The ability to deliver bulky, outsized cargo." The Douglas C-74 Globemaster and one of the five Fairchild C-82 Packets that flew on the Berlin Airlift at Rhein-Main Air Base on September 22, 1948. (*U.S. Air Force.*)

the rear of the fuselage between twin tail booms. Delivery began in 1945 and Fairchild ultimately built 220. The C-82's capacity was relatively unimpressive; each carried just over four tons. Between the September 14 and November 30, five Packets made 252 flights, delivering 1,054 tons of cargo, about 4.18 tons per trip. The Packet's advantage lay in its wide fuselage and access through the rear, which made it excellent for hauling vehicles. Initially, plans called for the aircraft to evacuate vehicles from Berlin, but they provided tremendous assistance hauling bulk items and heavy construction equipment like bulldozers, asphalt machines, and graders. Tunner had originally planned to use the C-82s for a short time; however, their particular value changed his mind and they remained a part of the airlift for several months. Like the C-74 and the C-124, the C-82 was the forerunner of a greater airplane—the C-119 "Flying Boxcar."²⁰¹

The French occupation force made its greatest contribution to the Berlin airlift by allowing the construction of Tegel in its zone. After Tegel opened, the French garrison made one more contribution. Radio towers belonging to *Berliner Rundfunk* but under Soviet control provided a serious landing hazard at the new field. On November 20, Gen. Jean Ganeval, the French commander in Berlin, warned the Soviets that if the towers were not moved, he would remove them on December 16. The Soviets apparently failed to take the warning seriously, and on that morning *gendarmes* closed off the roads around the towers and peremptorily ordered the station personnel to abandon their offices. Dynamite did the rest; a massive explosion brought the towers down.²⁰²

"Black Friday" and a Pattern of Operations

Under Tunner, the 1st Airlift Task Force staff monitored the flow of traffic through the corridors, issued orders for diversions when necessary, and maintained records on the tonnage delivered. Air traffic control centers located in both occupation zones and Berlin had complete authority over all airlift routes and terminal areas. These centers controlled the rate of flow from take-off to landing, the traffic patterns in and out of Berlin, and all airlift operational procedures.²⁰³ It was their responsibility to develop the standard procedures required to translate Tunner's vision of an airlift into practical terms. Some of the measures were already in place when Tunner arrived; others were developed over time through trial and error. The basic elements of the airlift were fundamentally simple in theory, but extremely complex in practice.

Air traffic control policies directed that all flights were made under instrument flight rules (IFR). The CALTF adopted two methods for regulating takeoffs. First, bases widely separated from each other and aircraft with dissimilar air speeds received blocks of time within which to take off. Second, the Airlift Task Force adopted an integrated system of dispatch for bases close together and for aircraft with the same cruising speed. This system ensured that each airplane entered the pattern to Berlin with the proper interval. All aspects of the flight were closely regulated. Standard airspeeds for climb,

cruise, and descent enabled the pilots to maintain their intervals with as little disruption as possible, while positive navigational fixes at designated points allowed them to adjust their intervals when necessary.²⁰⁴ When the last C-47 left the airlift on September 30, 1948, Rhein-Main and Wiesbaden eliminated the block system, and the airlift from the American zone realized Tunner's conveyor-belt metaphor for the airlift. The British zone, with its widely-spaced bases and diverse types of aircraft, continued to rely on blocks of time to control the pattern.

The separation of individual aircraft in the flight pattern received careful study. Planners determined that for aircraft of the same speed destined for the same airfield, two altitudes 500 feet apart with a minimum of six minutes between aircraft at the same attitude provided acceptable safety. For aircraft making short flights, a three-minute separation was more than adequate. If aircraft with different air speeds were involved, however, the pattern required additional altitudes. However, the number of separate altitudes had to be kept to a minimum to ensure a smooth flow into the base in Berlin by reducing the descent time from cruising to approach altitude.²⁰⁵

These procedures worked well in good weather. Bad weather, however, posed significant problems and was, of course, the factor Stalin counted on to halt the flow of coal and food into Berlin. Initially, when bad weather reduced conditions to below minimum conditions, Air Traffic Control grounded the airlift. If necessary, the control centers diverted aircraft to other airfields in Europe, some as many as 600 miles a way.²⁰⁶

Initially, if an aircraft missed its landing at Tempelhof or Gatow for any reason, Air Traffic Control resorted to the time-honored technique of "stacking." As the aircraft circled to land again, those behind it entered the holding pattern over the base. As more aircraft entered, the airplanes circling to land stacked higher in the pattern. Stacking posed several problems. For one thing, landing a stack of aircraft took excessive time, and the process interrupted the smooth flow of the airlift that Tunner sought to establish. Nine aircraft stacked up to 9,000 feet took over ninety minutes to land. For another, stacking aircraft was extremely dangerous, especially in bad weather. The risk of a midair collision, in a pyramid of heavily-laden aircraft circling in close proximity high into the sky under terrible weather conditions and limited visibility, was hazardous in the extreme.²⁰⁷

The solution to stacks of aircraft in the narrow confines over Berlin provided a key to the success of the Berlin Airlift, as well as one of its most dramatic moments. As of Friday, August 13, 1948, the airlift had been in operation for seven weeks. Tunner had been in command for two, and things were beginning to shape up the way he liked. On that date, he flew into Berlin to present an award to Lt. Paul O. Lykins, the pilot who had made the most flights into Berlin to that point. Tunner's Skymaster took off from Wiesbaden under black clouds and rainy conditions. Ahead, precisely three minutes apart, he later wrote, was a long line of heavily loaded C-54s. Behind him the line stretched back to Wiesbaden and Rhein-Main.²⁰⁸

As Tunner's airplane neared Berlin, the weather closed down. Clouds dropped to the tops of buildings, sheets of rain blinded radar, and everything "went to hell." One C-54 missed the runway, crashed, and burned; a second landed and blew its main tires while stopping the heavily-loaded aircraft from hitting the wreck; a third missed the main runway entirely and ground-looped on an auxiliary runway. Aircraft began stacking over Tempelhof. Berlin Control fitted Tunner's aircraft into a slot at 8,000 feet, but those behind had to enter at 12,000. Soon a huge, confusing, milling mass of aircraft circled in a stack from 3,000 to 12,000 feet in danger of collision or of drifting out of the corridors completely.²⁰⁹ Tunner later wrote that he had to react quickly.

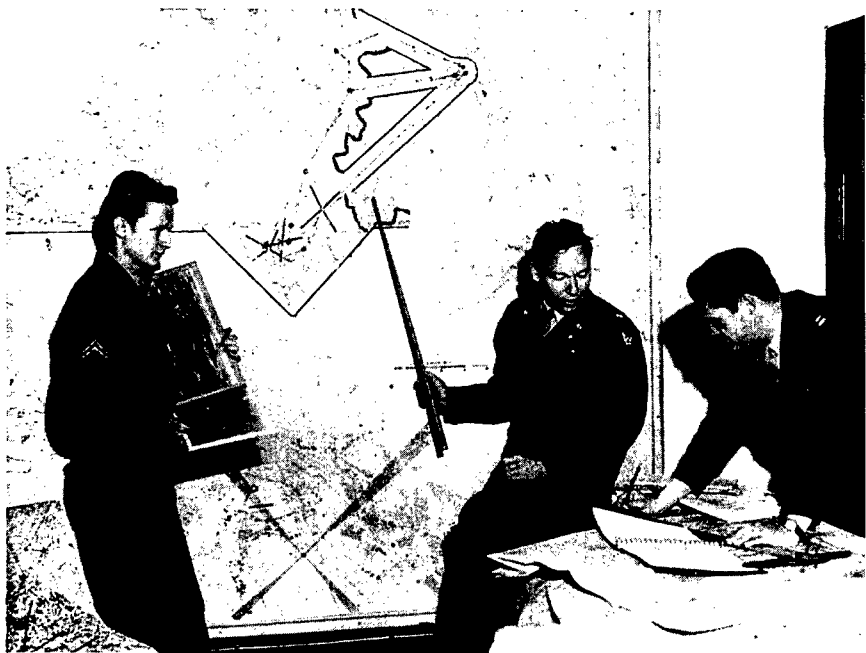
"This is 5549," I said. "Tunner talking and you better listen. Send every plane in the stack back to its home base."

There was a moment of silence, then an incredulous-sounding voice said, "Please repeat."

I said: "Send everybody in the stack below and above me home. Then tell me when it's O.K. to come down."

He got the message that time. "Roger, sir," he answered.²¹⁰

Circling over Berlin, Tunner concluded that the solution to the problem was not to stack, but to return any aircraft that missed its approach back to its



"A pattern of operations." Corporal Clyde J. Dhein of Sheboygan, Wisconsin, left, looks on while Maj. Harold "Hal" Sims, Chief of Navigation & Briefing, center, and Capt. Ray Towne, Assistant Chief of Operations, right, discuss navigational problems in the air corridors. (*U.S. Air Force.*)

base through the center corridor and then reroute it back into Berlin. He ordered Lt. Col. Robert D. "Red" Forman, his chief of operations, and Lt. Col. Sterling P. Bettinger, his chief pilot on the airlift, to work out the details of the new procedures. As a result, Airlift Task Force Headquarters ordered that all aircraft landing at Tempelhof would be allowed one attempt. If for any reason the aircraft failed to land, it would return to its home station through the center corridor. Loaded aircraft would fly a different altitude from those returning unloaded and would then be rerouted back to Berlin. The standard procedure for the airlift, thanks to "Black Friday" became a straight-in approach. Under the new system, aircraft not only flew three minutes apart, they landed three minutes apart. When one missed an approach, it immediately returned to its home base through the center corridor, where it landed and was then slotted back into the flow of aircraft to Berlin. In the same ninety minutes it took to bring in nine aircraft stacked over Berlin, the airlift could land thirty C-54s carrying 300 tons using the straight-in approach and landing at three minute intervals.²¹¹

All of this required exceptional pilot proficiency and major efforts went into thoroughly training each pilot in the standard procedures of the airlift and in maintaining his proficiency. The airlift adopted the chief pilot and check pilot system in each group. A "Standardization Board" within Airlift Task Force Headquarters developed the standard techniques and operating procedures. The chief pilot was responsible for standardization within his group, and the check pilots under him ensured that these were followed. In the later stages of the airlift, the replacement crews came in at the rate of about 17 percent per month, and these men were comparatively inexperienced. Consequently, an average of eight pilots per month per squadron had to be upgraded.²¹²

Communications and Control

Detachments and squadrons of the Airways and Air Communications System operated the extensive communications system that underlay the airlift. Commanded by Lt. Col. Jess R. Guthrie, who had operated the communications system on the Hump in the China-Burma-India Theater, this system included ground control approach radar, which ultimately enabled the airlift to land aircraft every three minutes under most weather conditions. In Berlin, hour-after-hour, disciplined operators staring at green, glowing scopes in dark, cramped rooms calmly talked the blind "Big Easies" down a steep glide path where only a minor deviation could spell disaster. Often, the first the pilots saw of the ground at Tempelhof was a cemetery and the runway seconds ahead. GCA was more than equipment; It was a process that required steady nerves and mutual confidence both on the ground and in the air. The extensive use of GCA at every airlift base was probably the most important single technical factor in the success of the Berlin Airlift.²¹³

The reduction of USAFE following the war had hit air communications especially hard, and only the bare minimum of air traffic control equipment was in place in Germany prior to the airlift. Berlin had only one GCA set and



"Hour-after-hour, disciplined operators talked the 'Big Easies' down." Ground control approach (GCA) operators intently watch their scopes and give instructions as they act as eyes for the airlift pilots landing at Tempelhof. From front to rear, they are: SSgt. Darrel A Wright, Los Angeles, California, Sgt. Richard A. Pagonis, Pittsburgh, Pennsylvania, and SSgt. James R. Gipson, Dallas, Texas, all from the 1946th Army Airways Communications Squadron. (*U.S. Air Force.*)

one radar set for corridor control. Rhein-Main and Wiesbaden also had GCA. Beyond GCA, Rhein-Main, Fulda, Frankfurt, and Tempelhof had navigational aids in the form of radio ranges, while Wiesbaden, Offenbach, and Tempelhof had radio beacons. Fixed beacons had been removed from the corridors; however, since these were in Soviet-controlled territory. The available equipment, it was immediately evident, was incapable of controlling heavy air traffic during IFR conditions. The problems faced were daunting. Controllers ultimately had to control aircraft taking off, flying, and landing three minutes apart through narrow corridors with a severely limited number of altitudes available. In Berlin, the bases were close together and the approach and let down patterns intersected in a vertical plain, requiring rigid air traffic control both laterally and vertically.²¹⁴

Tunner and his staff worked constantly to upgrade the airlift's radar capability, since they knew that this technology was vital to ensuring that the operation could continue through the winter. Ultimately, the U.S. Air Force operated two GCA sets at each base continuously. After the first week in September, communications failures proved a minor problem on the airlift, though they did still occur. On October 15, for example, the GCA system at

Tempelhof broke, and in a 24-hour period, thirty-one aircraft had to return to their home bases. By November, sufficient GCA units and beacons had been established at all American airlift bases. The most serious problem faced by GCA during the airlift was the fact that many units had been used well beyond the mandatory 3,000-hour inspection and overhaul. Some units, operating around the clock, were as many as 4,000 hours past their requirement for major depot inspection. It was not until April 1949 that depot overhaul of all GCA units began. Another problem with GCA was that its sheer bulk made some of it difficult to transport by aircraft. Subsequent developments, particularly in the Watson Laboratory Search Unit, made all GCA units air transportable.²¹⁵

Another important piece of equipment addressed the difficulties controllers faced in spacing aircraft entering the Berlin area. In August, USAFE installed a "search radar system" on top of the eight-story administrative building at Tempelhof. A "moving target indicator" eliminated the clutter caused by the surrounding buildings, and an "off-center radar" scope was installed for Tempelhof, Tegel, and Gatow. The search radar showed all traffic entering the area, while the off-center scope showed air traffic at the airfield to which individual aircraft were being directed. This system, however, did not go into full operation until January 1949.²¹⁶

In December the installation of the CPS-5 radar at Tempelhof enabled operational personnel to detect aircraft over eighty-five miles from Berlin. This capacity enabled them to space incoming aircraft fifty miles from Berlin at ten-mile intervals not by adjusting their speed, but by directing 360-degree turns in specific directions. Tempelhof received enough of this equipment to enable British controllers to give similar guidance to their aircraft. Airlift headquarters also established six very high frequency (VHR) ranges at airlift bases as additional navigational aids. The first was operational at Tempelhof at the end of November.²¹⁷

Tunner's headquarters also studied the best airfield lighting arrangements for poor flying weather. Following his trip to Washington, D.C. in October 1948, Headquarters U.S. Air Force approved the installation of D-2 high intensity approach lights at the airlift bases and diverted some scheduled for installation at bases in the United States and Alaska to Germany. Air Matériel Command technicians supervised installation of the units beginning at Tempelhof. Tempelhof presented a special problem, because tall apartment buildings close to the field prevented installing the lights at runway level. The best approach to the runway was over a small cemetery. With the permission of the city magistrat, engineers mounted the lights in the cemetery on pylons welded together by German labor. The lights, placed one hundred feet apart, started at ground level at the runway edge then rose in graduated heights away from the runway. The farthest away, was seventy-five feet tall, enabling them to be visible to approaching aircraft.²¹⁸

The C-54s also received modifications. On August 4, Tunner directed the airlift squadrons to strip the Long Range Air Navigation equipment and other communications gear from the cockpits. Removing superfluous equipment

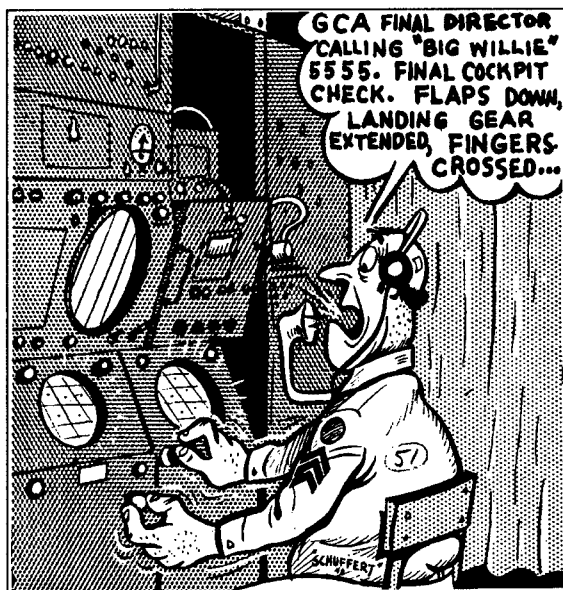


"Airfield lighting arrangements at Tempelhof." A 200,000-watt system of high intensity approach lights placed in a cemetery illuminated a 3,000 foot approach to the main runway at Tempelhof. (*U.S. Air Force.*)

increased the aircraft's weight-carrying capacity. Subsequently, on August 18, airlift headquarters directed that modern eight-channel radios be added to the C-54s during the 200-hour inspection.²¹⁹

Tunner learned another important dimension of problem of controlling the airlift when he landed at Tempelhof during "Black Friday." There was a serious shortage of experienced GCA operators capable of handling the density of traffic flowing into Berlin. Most were operations officers rather than trained air traffic controllers. The problem went deeper than just the airlift. The air force seemed to have no air traffic controllers. The veteran air controllers from World War II had left the service after the war to work in civil aviation. The MATS Flight Advisory Centers in Europe, Tunner reported to Kuter, appeared to follow the traffic more than control it. Most of the controllers at Tempelhof were reasonably good, Tunner concluded, and he thought that the airlift could get along with them for the moment, but when bad weather set in, the lift could be in trouble. He needed, he wrote Kuter, several skilled, experienced operators.²²⁰

On September 2, Kuter wrote Tunner that the air force had acted on Tunner's request and activated some experienced civilian traffic controllers. They were due to leave for Rhein-Main that day. Kuter went on to say that, as Tunner knew, the Air Force lacked experienced air traffic controllers, and Air Training Command had no training program for controllers, but the situation was now under study. By September 10, the nineteen new controllers sent by Kuter were in place and Tunner expected a significant improvement in his air



traffic control centers. He was also able to release some experienced controllers to his GCA units with pronounced improvement in their efficiency.²²¹

Throughout the airlift, U.S. leaders feared that the Soviets would jam the communications and radar systems on which the airlift depended. On October 16, a Joint Chiefs of Staff study concluded that GCA could be easily jammed if the Soviets were willing to risk

overt interference with the airlift. The instrument low approach (ILA) voice control system and the AN/APS-10 airborne search radar were also susceptible to the same type of interference. On October 19, Air Force communications experts reported that the Soviets would find it easy to cut ground communications cable systems with the Western occupation zones and to jam radio communications by introducing more powerful transmitters. The United States could do little to counter the jamming, they concluded, except switch to alternate radio bands; however, the Soviets had also proven quite adept at chasing communications from one frequency to another. The experts recommended that consideration be given to the use of carrier pigeons!²²²

Weather Forecasting

Weather was probably the greatest single hazard faced by the Berlin Airlift. Pilots faced fog, freezing rain, snow, turbulence, and heavy clouds, all of which posed major problems in Germany. When airlift operations had to be interrupted, it was most often for fog in November 1948 and February 1949 that grounded aircraft. The nature of airlift operations required the Air Weather Service to provide exact knowledge on ceilings and visibility for a minimum of three hours ahead of time, a state of accuracy beyond the equipment and ability of the day. In June 1948, the 18th Weather Squadron handled all weather forecasting for the Air Force in Europe. The demand for an organization to accomplish forecasts and brief air crews on a 24-hour basis, and to provide special attention to the requirements of the airlift, led to tremendous expansion. The Chief, Air Weather Service, authorized expansion to group status. Subsequently, the 2105th Air Weather Group at Wiesbaden included three squadrons, located in



Central Europe, England, and Tripoli.²²³

The 18th Weather Squadron was persistently shorthanded during the late fall of 1948, forcing the organization to limit support to the rest of USAFE so that it could provide proper information to the airlift. By the end of the year, the shortage had been overcome. However, the airlift's insatiable need for weather information during the winter months led to the

establishment of a separate unit, the 7169th Weather Reconnaissance Squadron, on November 25. Equipped with B-17s and based at Wiesbaden, the 7169th was responsible for transmitting reports on icing conditions and extreme turbulence in the air corridors.²²⁴

To develop a single "weather voice" and single forecast for the commander, the Air Weather Service developed a Master Control Weather Station at the Frankfurt Air Traffic Control Center with a sub-station at Tempelhof. A conference telephone capability enabled the Master Control Station and the weather units at every airlift base to pool their experience and to produce as accurate a forecast as possible. In August, the airlift used a system of six-hour weather forecasts. By the end of the month, however, it was apparent that the airlift required more frequent forecasts to keep up with rapid changes in the German weather. Tunner directed the Air Weather Service offices in Berlin and Frankfurt to update air controllers and operations officers hourly. This system ultimately proved to be such an asset that a similar arrangement was being worked out with the British when the airlift ended.²²⁵

More difficult was keeping track of the fast-changing conditions along the corridors and relaying that data back to the originating bases. General Smith began the process on July 9 by arranging for a B-17 from Wiesbaden to fly the Frankfurt to Berlin corridor above the cargo aircraft to watch for thunderstorms and to provide immediate reports on bad weather. The first of these flights took place late that evening. In early August, Tunner's operations section concluded that two aircraft in every block should report the weather back to airlift headquarters, thus avoiding unnecessary use of radio facilities in the corridor.²²⁶

Maintenance and Supply

An enormous logistical endeavor in its own right, the Berlin Airlift was made possible by a massive logistical effort that stretched from the flightlines



"The airlift ate up tires at an incredible rate." Rhein-Main maintained a supply of thousands of tires ready for the C-54s. Inspectors checked them constantly for deterioration. (*U.S. Air Force.*)

at the airfields in Germany, through depots in Germany and England, to maintenance and supply facilities across the United States. The effectiveness of this system was critical to the success of the airlift. The most serious problem faced by the airlift, other than flying under instrument conditions, was the servicing and maintenance of the airplanes that performed the work.²²⁷

Maintaining the C-54s presented serious problems. First, since the few Skymasters that had operated in Europe prior to the airlift were assigned to MATS, USAFE lacked the means to support them. Supplies and parts for the aircraft were not part of the USAFE supply system; maintenance facilities capable of handling them were in short supply; and few mechanics had experience with the big birds. Second, the squadrons deployed from the United States brought only a limited number of mechanics and few parts with them; most ground personnel and stocks of supplies arrived by ship, taking several weeks to reach Europe. Conditions on the airlift compounded these problems. The Skymaster had been designed and built to fly passengers over long distances, a mission that featured few takeoffs and landings and long hours at a standard cruising speed. Now, Tunner called upon them to make a large number of short flights carrying extremely heavy loads. Frequent takeoffs under maximum power strained engines and wore out parts; repeated landings stressed tires, brakes, and the C-54's fragile nose gear. The airlift placed a tremendous burden on engines and airframes and ate up spark plugs, brakes, and tires at an incredible rate. The pounding caused by the frequent landings loosened bolts and rivets and fractured metal pieces. The air force determined its stock levels by calculating the wear and tear on aircraft flying a standard number of hours per year. Skymasters on the Berlin airlift used up a year's

worth of flying hours in a month, placing demands on the system far in excess of what had been planned.²²⁸

The limited inventory of C-54 parts air force-wide compounded the situation. There were simply too few parts to stock the supply pipeline and ensure a steady flow of parts so that they were immediately available when required. The shortage of parts in the pipeline system meant that standard practices, like delivery of parts by ship, were insufficient to maintain supply levels, and thousands of tons of parts, equipment, and supplies had to be flown from the United States to Europe.²²⁹

USAFE Letter 65-60, published on August 19, 1948, established basic supply and maintenance procedures for the Airlift Task Force (Provisional). Essentially, all common items of air force supply came from USAFE's primary supply facility, Erding Air Force Depot. Erding also maintained the necessary stocks to support depot-level maintenance for C-54 engine accessories, instruments, surfaces, and electronic components. Task Force Headquarters designated Rhein-Main as the specialized supply depot for C-54 support, and directed it to establish a sixty-day supply level for the big aircraft. Oberpfaffenhofen Air Force Depot in Bavaria established electronics maintenance for radios and radars. The 7496th Air Wing at the British base at Fassberg requisitioned C-54 parts from Rhein-Main, and this arrangement served at Celle later. Finally, Erding supplied equipment for the initial installation of AN/ARC-3 radios in the C-54s. Replacement parts and spares for the radio came from Rhein-Main.²³⁰

In addition to its functions as a supply depot, Erding also accomplished sheet metal work, repaired aircraft instruments, and performed special work impossible at other bases like the elimination of fuel-line leaks. Erding's direct support of the airlift was especially important during the summer of 1948, when it had to send many of its enlisted mechanics to reinforce the shorthanded maintenance crews servicing the C-47s at Wiesbaden.²³¹

Maintenance on the C-54s required checks, or inspections, at carefully determined points—daily and at 50 hours, 200 hours, and 1,000 hours—to ensure the integrity of the aircraft and its safe performance. Maintenance control personnel carefully scheduled these inspections and thoroughly documented the status of the airplane, the deficiencies identified, and the repair actions taken. Maintenance on the airlift was a continuous process that operated twenty-four hours a day, seven days a week, and precise scheduling followed accurately was the key to keeping the airplanes flying. The maintenance control unit within the airlift headquarters constantly updated a color-coded control board, displaying the status of each aircraft and providing the overall status of the airlift fleet at a glance.²³²

Maintenance planning by the end of July called for field maintenance to be a theater responsibility conducted at the flying bases. The critical 200-hour inspections would take place at Oberpfaffenhofen until the air depot at Burtonwood in England opened for operations. The 1,000 hour inspections would be the responsibility of Air Matériel Command in the United States.²³³

It must be emphasized that mechanics at the bases and depots in Europe accomplished their work in terrible weather. Rain, fog, and cold—combined with poor facilities, long hours, and shortages of tools and parts—and intensified by the tremendous pressure of keeping the airplanes flying, made maintenance a miserable, nasty job. And the lack of amenities in the form of proper housing and, often, poor food did little to inspire the men. Maj. Vance Cornelius, a veteran maintenance officer at Rhein-Main, reported that the state of affairs was little different at his base than those that Eighth Air Force mechanics had faced during World War II, except Eighth Air Force had a better supply of parts.²³⁴

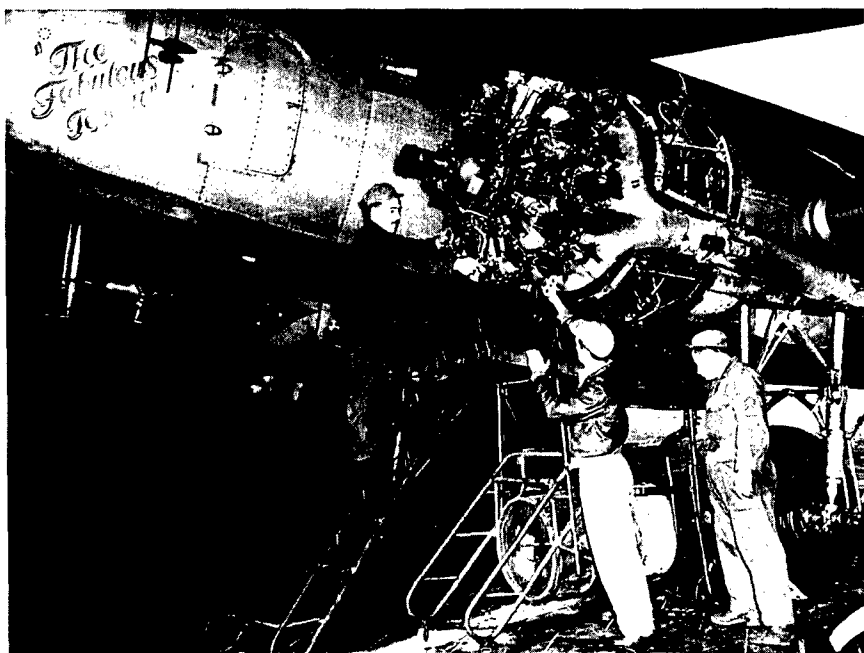
In addition to the living and working conditions, maintenance on the airlift suffered severely from deficiencies in the number, experience, and ability of the mechanics and technicians available, especially early in the operation. Inexperienced personnel were a special problem. Not only were they inefficient, but they could double or triple the time required for even the simplest of repairs. Inexperience cost the airlift hundreds of hours of flying time. The situation improved over time, thanks to better screening of personnel sent to Germany and an intensive on-the-job training program established by the CALTF, but as late as April 1949, a newly arrived mechanic fresh from the C-54 course at Keesler Technical Training Center could encounter a sergeant mechanic who had never been taught to change the carburetor on the R-2000 engine. Further, the C-54 squadrons were not manned to support a round-the-clock operation, and the Air Force was unable to provide enough mechanics, especially trained ones, to provide all the support necessary. Ultimately, the personnel shortages forced USAFE to recruit German nationals, most former *Luftwaffe* mechanics, to serve with the airlift. Since few spoke English and all lacked experience with C-54s, this step required translating maintenance manuals, technical publications, and inspection check lists into German and establishing an intensive training program.²³⁵

The best evidence of the progress made in developing a strong maintenance capability came between April and July 1949 when the airlift averaged better than 190,000 tons of cargo per month, some 60,000 tons per month more than during the previous four months, although the number of aircraft assigned to Operation Vittles remained virtually unchanged.²³⁶

Field Maintenance

Airlift maintenance personnel tended to follow standard Air Force practices, but this often proved impossible. The shortage of personnel, especially early in the airlift, prevented the assignment of a crew chief and crew to each aircraft at Rhein-Main. Consequently, maintenance planners had to alter techniques to make the most of the scarce mechanics.

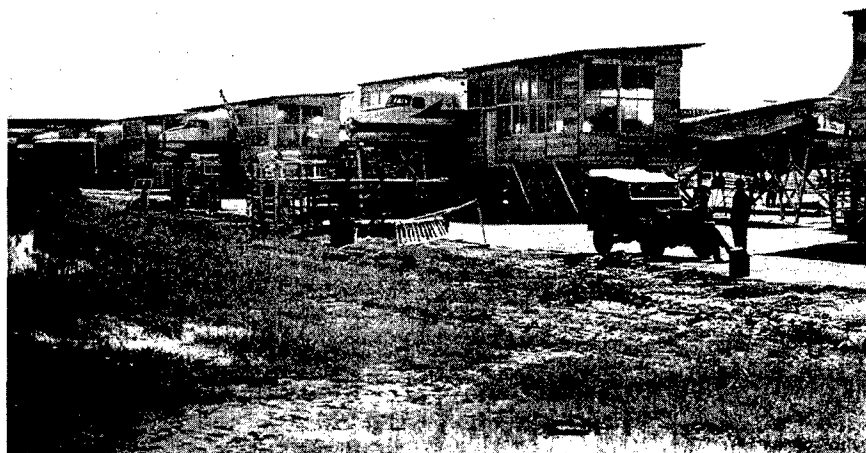
Maintenance at the field level divided into three functions. First, each aircraft received a daily preflight check. Second, "turnaround" maintenance provided routine servicing when an aircraft landed. It also addressed pilot



“Field maintenance.” During unloading at Tempelhof, mechanics inspected engines and made minor adjustments. Here “The Fabulous Texan,” a C-47, receives minor servicing. (*U.S. Air Force.*)

complaints. Third, maintenance personnel conducted routine checks at 50, 100, and 150 hours. To accomplish these a squadron had 148 maintenance personnel assigned—often many less were on hand—divided into three shifts working twelve hours on and twenty-four hours off. Each shift, in turn, were further divided into three crews. An “alert crew,” usually twelve to sixteen men, carried out the preflight checks of the airframe, engines, landing gear, fluids, and electrical systems. They also inspected the radio and radar systems. The alert crews also conducted turnaround maintenance. In this process, aircraft pilots notified the tower of any complaints or problems before they landed. If the problem was minor, the alert crew called for fuel, oil, another load, and accomplished repairs on the flightline. If the work was beyond their capability, they turned the aircraft over to the appropriate crew that specialized in engines, electrical systems, hydraulics, radios, props, or other systems.²³⁷

The third maintenance function, 50-hour inspections, provided preventive maintenance designed to reduce the need for unscheduled maintenance by identifying and correcting problems before they became serious. This work included a thorough cleaning of the aircraft, the replacement of spark plugs, an oil change, and an inspection of the airframe, engines, and aircraft systems. The 50-hour inspection usually took about five hours to complete.²³⁸



"The 200-hour inspection was more than a casual evaluation." C-54s in the wooden inspection docks constructed at Oberpfaffenhofen air depot, Oberpfaffenhofen, Germany. (*U.S. Air Force.*)

200-Hour Inspections

With each aircraft flying an incredible number of hours, the Skymasters reached the 200-hour inspection mark quickly. This inspection was critical to the performance of the C-54 and the life of its airframe. It could not be omitted. And since the aircraft had to be removed from the operation for several days, it rapidly became a major concern for airlift planners. To standardize and speed up the process, USAFE planners decided to concentrate 200-hour inspections at one location. They determined to reopen a former World War II air depot at Burtonwood in northern England for that purpose, because it had sufficient space and facilities for a complete inspection line. Opening Burtonwood and readying the facilities took time, however, and on August 6, Tunner wrote Kuter that 200-hour inspections would take place at Oberpfaffenhofen near Munich until Burtonwood was ready.²³⁹

The 1421st Maintenance Squadron (Provisional) began operations at Oberpfaffenhofen during on the first week of August, and by the 15th the unit had 7 officers and 236 men. The first C-54 arrived at Oberpfaffenhofen on August 7. It should be emphasized, that the 200-hour inspection was much more than a casual evaluation of the airplane. It was a thorough inspection and repair of the aircraft that included a complete cleaning, overhaul, recondition-

ing, and replacement of worn parts and equipment. First, depot personnel removed all loose equipment, drained the oil, and conducted a general inspection. Second, the aircraft was thoroughly washed down with a chemical solution, scrubbed, and rinsed with water, while other workers swept and vacuumed the inside of the aircraft. Third, personnel conducted the 200-hour inspection tasks, and completed all work necessary on props, engines, ignition, and other systems ahead of the firewall. Fourth, they accomplished the same tasks on all other airplane systems. Fifth, maintenance personnel inspected the hydraulic system, wheels, brakes, and tires. Finally, they serviced the aircraft, replaced all equipment removed earlier, and conducted a last inspection. USAFE also took the opportunity provided by the 200-hour inspection to do changes and modifications to the aircraft beyond the work done during the inspection. For example, Tunner ordered all unnecessary navigation equipment removed from the C-54s during the inspection to save weight and, in another case, depot personnel installed new deicer boots on all C-54s beginning in September.²⁴⁰

The demand for 200-hour inspections soon forced the depot to divert 95 percent of its work force to the C-54s. Even this number proved insufficient, a problem compounded by conflicting instructions from the airlift headquarters which set the depot's quota at the completion of four inspections per day, but would only allow thirteen C-54s at the depot at one time. Since the time required to repair deficiencies uncovered during the inspection varied substantially from airplane to airplane, the wash racks either had a line of aircraft waiting for service or stood empty. The work force, accordingly, might have to work many hours overtime or might have to be laid off for several days. Recognizing the wash racks as the main problem, Oberpfaffenhofen hired sufficient local German workers in September to handle any influx of aircraft.²⁴¹

In October, Airlift Task Force Headquarters increased the daily quota of aircraft from four to six, and assigned Maj. Jules A. Prevost, a maintenance expert from Pan American Airlines recalled to active duty for sixty days, to Oberpfaffenhofen. Major Prevost established a "block system" that increased production slightly; however, at the same time the depot began preparation to close down the 200-hour inspection program and transfer it to Burtonwood. In all, Oberpfaffenhofen completed 43 aircraft in August, 108 in September, 137 in October, and 96 in November. The last C-54 completed inspection at Oberpfaffenhofen on November 22.²⁴²

During World War II, Burtonwood had served as one of the largest modification and repair centers in England. Reduced to a storage area for mothballed RAF bombers after the war, the facility had been allowed to deteriorate: roofs leaked, buildings sagged, equipment rusted, and facilities decayed. A USAFE survey team went to England in August to inspect the installation, and by the end of the month the Air Ministry had informally agreed to the establishment of the depot. The construction necessary for reopening Burtonwood began on September 1, and Col. Paul B. Jackson, Director of Supply and Maintenance at Oberpfaffenhofen, transferred to the 303rd Air Repair

Squadron at Burtonwood on November 2. Oberpfaffenhofen also built thirteen wooden maintenance docks and six wing docks and sent them to England. Oberpfaffenhofen also supplied experienced men who applied, in the enclosed hangars at Burtonwood, the methods and techniques established at the depot in Germany.²⁴³

One measure undertaken at Burtonwood was a weight-stripping program for the D, E, and G series of the C-54s. When weighed, most C-54s were found to be about 300 pounds lighter than the data books listed them at. Then, the maintenance crews removed roughly 2,200 pounds of excess equipment during the renovation process. The aircraft thus emerged from the 200-hour inspection with a payload some 2,500 pounds greater than before. The payoff for the airlift not only lay in increased cargo capacity, but in less complicated maintenance thanks to the removal of equipment.²⁴⁴

The transfer of operations from Oberpfaffenhofen to Burtonwood, however, severely impacted the production program at a critical time. In November, when Oberpfaffenhofen produced forty-five inspections, Burtonwood completed only eighteen. The difference was made up by conducting 200-hour inspections at the flying bases: nine at Fassberg, six at Wiesbaden, and twenty-four at Rhein-Main, a total of 102 for the month. This situation, however, was highly unsatisfactory since the bases had to use scarce equipment and facilities and the work was a severe drain on maintenance crews who should have been doing daily maintenance. The situation remained unsatisfactory for several months. In December, Burtonwood accomplished forty-nine inspections, just over a quarter of those required by the airlift fleet, causing Tunner and his staff considerable worry. Again, the flying bases had to make up the difference: Rhein-Main performed forty-seven inspections, Wiesbaden sixteen, and Fassberg nine. Worse, in January, Rhein-Main had to conduct 70 of the 155 200-hour inspections required that month. Additional personnel and equipment subsequently improved the situation at Burtonwood. The depot conducted 85 inspections in February, then more than doubled the total to 177 in March, enabling USAFE to end 200-hour inspections at the flying bases in April, although Rhein-Main continued to do a small number each month. Production at Burtonwood peaked in July 1949 at 256 inspections.²⁴⁵

Global Logistics for the Airlift

Behind the Berlin Airlift stood the worldwide maintenance and supply capability of the United States and, in particular Air Matériel Command, headquartered at Wright-Patterson AFB, Ohio, with its system of depots at Sacramento, California; Ogden, Utah; San Antonio, Texas; Oklahoma City, Oklahoma; Mobile, Alabama; Middletown, Pennsylvania; and Warner Robins, Georgia. A steady stream of airplanes, engines, and subsystems flowed in and out of the depots as the airlift grew. The depot at San Antonio overhauled Pratt & Whitney engines, while those at San Antonio, Middletown, Mobile, and Sacramento reconditioned starters. Generators were reworked at Sacramento, Ogden,

Oklahoma City, and Mobile, and propellers at Sacramento, San Antonio, and Warner Robins. San Antonio, Warner Robins, and Sacramento overhauled communications equipment, and all of the depots repaired instruments.²⁴⁶

The C-54s themselves had to return to the United States periodically for cycle maintenance. Cycle maintenance was a major inspection and reconditioning accomplished at 1,000-hour intervals. At 1,000 hours, for example, personnel conducted a basic inspection of the airframe and systems. The 2,000-hour inspection repeated the basic inspection but included flaps, corrosion prevention, and tightening all bolts. At 3,000 hours, personnel repeated the basic inspection and added reconditioning of valves and integral tank sealing. The 1,000-hour cycles continued through 8,000 hours, with changes in the components and systems addressed.²⁴⁷

Early in August, the air force made about \$11 million dollars available to Air Matériel Command for contracts to civilian maintenance firms for cycle reconditioning of all C-54s assigned to the airlift, except the Navy R5Ds. The contracts went to three civilian firms, Texas Engineering & Manufacturing Company in Dallas, Texas; Lockheed Aircraft Service Company in Burbank, California, and Sayville, New York; and Aircraft Engineering and Maintenance Corporation in Oakland, California. The first of these began operation about August 20. Until then, the depot at Middletown accomplished the work. The Navy did cycle maintenance on its transport aircraft at Moffett Naval Air Station near San Francisco, California. Two C-54s arrived at Middletown on August 11 and eight more were on hand by the 20th.²⁴⁸

Initial plans, based on 126 aircraft, called for twenty-two to be in the pipeline for the 1,000-hour inspection and fifteen for 200-hour inspections at any one time, and all would be carefully scheduled on a regular schedule. The plan worked for the most part, but in November it became apparent that aircraft which had completed their inspections were not being returned to Europe as scheduled. Inspections that had been expected to take an average of twenty-two days had actually averaged fifty-seven days. Shortages of spare parts, changing requirements for installation of equipment, and the generally poor condition of the aircraft were principal reasons for interruptions in the flow of aircraft through the inspection pipeline. Further, the shortage of aircrews also affected the return of aircraft. As of October 8, for example, eight C-54s that had completed inspection were waiting for crews to fly them to Europe. The demands of the airlift precluded releasing crews for ferrying operations. As of November 26, sixty-seven C-54s had been sent to U.S. depots, and only eighteen returned. In the same time period, Skymasters on the airlift had flown 126,344 hours, meaning that 126 should have returned to the United States. Fifty C-54s had arrived in theater along with the eighteen returned, so the airlift had not suffered significantly. But the situation was still of grave concern.²⁴⁹

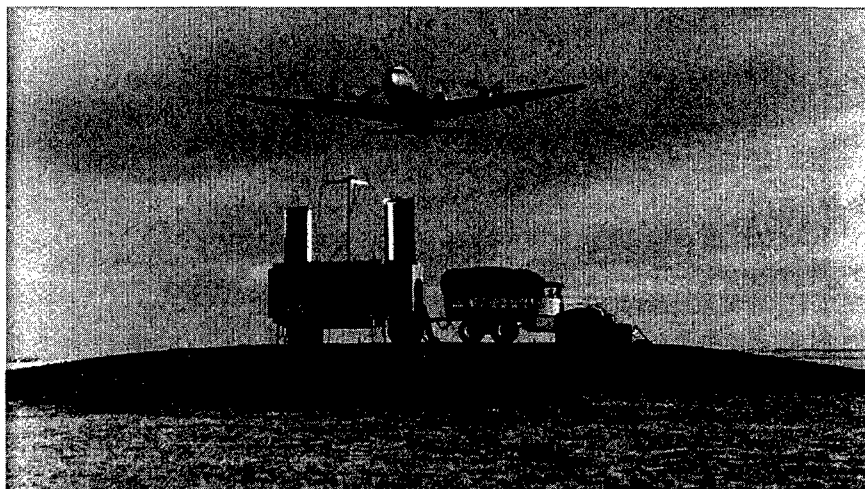
The depot maintenance system gradually caught up with the demand for 1,000-hour inspections. By early 1949, the arrival of additional mechanics and parts in Europe increased the number of aircraft on operational status, permit-

ting a more efficient utilization of aircraft and the prompt release of those scheduled for return to the United States. Tunner and his staff also brought the problem with delays in 1,000-hour inspections in the United States to Secretary Symington's attention. Symington focused high-level attention on the backlog. As a result, efficiency in processing the aircraft and accomplishing the repair work increased dramatically, while the training of additional pilots and aircrew ensured that the C-54s returned to Germany on schedule. These measures began showing results by mid-February, and by May the difficulties attending 1,000-hour maintenance had been largely solved.²⁵⁰

Replacement Training

The need for additional pilots, aircrew, and maintenance personnel for the C-54s had become apparent during the late summer of 1948. To meet this need, the U.S. Air Force transferred the MATS training school at Fairfield-Suisun (later Travis) Air Force Base, California, to Great Falls Air Force Base, Montana, in September. Training personnel built duplicates of the facilities at Rhein-Main, Wiesbaden, and Tempelhof. The replacement training unit opened on October 1, 1948, with nineteen C-54s, reengined with the Pratt & Whitney R-2000-11 engines, on hand at the base by October 15. Plans called for the program to produce one hundred crews per month, enabling the airlift to build its resources to three complete crews per aircraft and to replace 16 percent of the flight crews every thirty days.²⁵¹

Great Falls proved an ideal location for the replacement training unit. The winter weather was similar to that in Germany, and planners made every effort



"The need for additional pilots, aircrew, and maintenance personnel." A Douglas C-54 Skymaster comes in low over the GCA van at the Replacement Training Unit at Great Falls Air Force Base, Montana. (U.S. Air Force.)



to duplicate the conditions that the men would face on the airlift. The magnetic course used at Great Falls copied that on the approach to Berlin, and the aircraft had to land on the first part of the runway duplicating the short runway at Tempelhof. Sandbags gave the aircrew experience handling heavily-loaded Sky-masters, and each one had to make three landings at 70,000 pounds gross weight before graduating. The three-week course provided preflight and

flight training for all crew members, supplementary ground training for pilots and on-the-job training for flight engineers. The trainees consisted mostly of former airmen recalled to active duty. Few had flown in the previous three years and fewer still had any familiarity with Sky-masters. The primary requirement was some experience in multi-engine aircraft, thus most who went through Great Falls were experienced bomber crewmen.²⁵²

Construction difficulties and other problems prevented Great Falls from reaching its production goals immediately. Output during the first month was only about fifty crews. By the end of 1948, however, the training unit was graduating twenty-nine trained crews per week.²⁵³

The impact of the replacement training unit on the Berlin Airlift cannot be underestimated. The greatest complaint by most men assigned to the airlift was that they had been uprooted from their homes and families on short notice and sent to Germany on temporary duty status that apparently had no end, since no one could be certain when the airlift would end. The darkest humor on the Berlin Airlift came from an anonymous document called "The Fassberg Diary," which circulated from hand-to-hand in typescript. Ostensibly it was the diary of a newspaper reporter sent to visit the airlift sometime after the year 2000. He is the first new individual the tattered, aging veterans of the airlift have ever seen, and they immediately draft him into service as a "replacement." Establishment of a rotational policy and the advent of replacements went far toward reassuring airlift personnel that they were remembered and that an end was in sight to service under the conditions in Germany.²⁵⁴

The Army Hauls the Freight

The U.S. Army either provided or hired and supervised the truckers, transporters, loaders, and unloaders for the Berlin Airlift. European Command furnished and handled all cargo destined for Berlin. Its personnel supervised the



"The 66th Heavy Transportation Truck Company brought fifty-four trucks and eighty-four trailers to Wiesbaden." American trucks with their German loading crews waiting to load airlift aircraft at Wiesbaden, July 20, 1948. (*U.S. Air Force.*)

transport from ports, depots, and other sources in the Western zones to terminal points at Rhein-Main and Wiesbaden; transported the cargo from the terminal points to the airplanes; and, once it reached Berlin, transported it from the airplanes to the customers in Berlin. In doing so, the army relied upon a coordinated rail and truck system developed largely through trial and error. As noted earlier, EUCOM had learned many lessons during the Little Lift in April 1948 and had continued to deliver tons of food and coal to Berlin in the interim between April and the June crisis. It thus proved easy to activate an "aerial port of embarkation" at Rhein-Main several days before the Berlin Airlift began and to begin forwarding supplies to the base. On June 21, the Logistics Branch at Headquarters EUCOM learned of the need for food supplies in Berlin and ordered train loads of flour from army depots to Rhein-Main. This supply was thus available a few days later when Colonel Howley in Berlin asked for flour in the first airlift deliveries. Concurrently, the European Quartermaster Supply Depot at Giessen sent additional supplies to Rhein-Main while the 6th Transportation Truck Battalion mobilized the 67th Heavy Transportation Truck Company. On June 29, the Army Transportation Corps established a second traffic control point at Wiesbaden Air Base, while the 66th Heavy Transportation Truck Company brought fifty-seven trucks and eighty-four 10-ton trailers to Wiesbaden from the Munich area on June 29th to move supplies.²⁵⁵

During the first five weeks of the airlift, EUCOM was responsible for procuring and transporting commodities from sources throughout the zone of occupation to the bases at Rhein-Main and Wiesbaden. It operated food trains

from the port at Bremen to storage facilities at terminal points in the Frankfurt and Wiesbaden area. From there, Army trucks delivered the commodities to Rhein-Main or Wiesbaden as needed. Coal was the highest quality available from the mines in the Ruhr Valley. From the Ruhr it went by rail to dealers in Frankfurt, Hanau, Offenbach, and Mannheim, where merchants bagged it in regulation U.S. Army duffel bags. EUCOM's goal was to maintain a minimum of one-day airlift of vital commodities at the two bases. The Transportation Corps also managed the delivery of aviation fuel from the ports to storage points in Germany for the airlift. Ultimately, three ships and 1,500 rail tank cars provided the necessary fuel, which amounted to 15.6 million gallons monthly.²⁵⁶

The Airlift Field Operations officer had a chart that listed all rail cars and the type of supplies each contained. Upon his request, the air base transportation officer notified the German railroad agency to make up a train with a specified cargo. Rail cars for Rhein-Main went to the railhead built to support the airlift at Zeppelinheim, just across the autobahn, or to the air base railhead. At that location, six-man teams of workers loaded the cargo on trucks pulling 10-ton trailers and took it to the control point near the aircraft loading area. This holding and consignment area was of absolute necessity to ensure the smooth flow of the airlift, because it ensured that cargo was always on hand for immediate loading on the aircraft. Nearly to the end of the airlift, Rhein-Main lacked warehouse space, so between two hundred and three hundred trailers were kept loaded at all times. The control point maintained its ready reserve of loaded trailers in three lines. A ready line of loaded trucks was immediately ready to go; the second "working" or "active" line was ready to be picked up from the railheads; and a "reserve" line maintained trucks on hand if needed.²⁵⁷

Army traffic control personnel directed trucks from the ready line at the control point to specific aircraft. When the control tower notified the control point that an empty plane was within ten minutes of landing, the lead truck was dispatched to the proper hardstand complete with a flight clerk and a crew of ten laborers. Officers in jeeps whizzed around the base ensuring that everything ran smoothly. Rhein-Main lacked a loading ramp almost to the end of the airlift, so the aircraft were loaded at their hardstands. Wiesbaden, in contrast, had a loading ramp, as well as a more compact physical layout. Ultimately, centralization of cargo at each base by category facilitated the process. The loading of coal and food at Rhein-Main enabled an emphasis on speed and efficiency at that base. After July 26, Wiesbaden handled a wide variety of bulky, oversized, and heavy cargo that often required the use of forklifts or other mechanical loading equipment. Consequently, loading at Wiesbaden tended to take more time. Additionally, since such cargo was best carried by C-82s and the lone C-74, these aircraft usually flew out of Wiesbaden.²⁵⁸

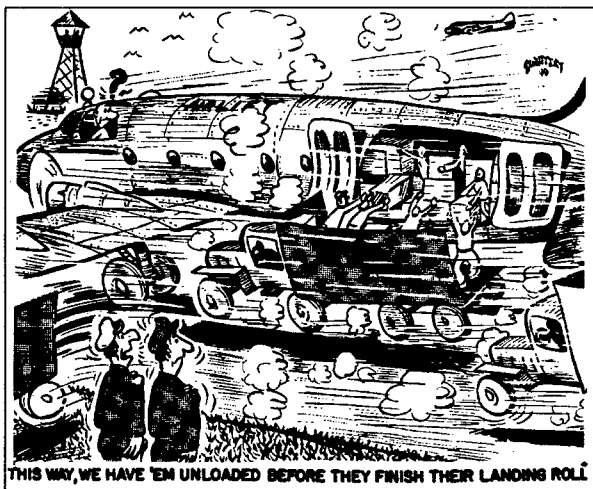
The time factor dictated the use of hand labor at most bases. Sacks of coal and flour could be loaded, stowed, and unloaded more efficiently and quickly by hand. Consequently, most of the two million tons of cargo the airlift delivered to Berlin was carried at least part of the way on someone's back. Displaced persons from Germany or East European nations did the majority of

the loading work in the Western occupation zones. The first organized labor unit assigned to the lift, the 4060th Labor Service Company (Lithuanian), began work at Rhein-Main on June 22. It transferred to Wiesbaden on January 1, 1949. The 8958th Labor Service Company (Polish) started on June 30. Other labor service companies included the 2958th (German), 8957th (German) 4052nd (Polish), 4543 (Polish), 7441st (German), 2905th (German), 8512nd (Polish), and the 4041st (Polish). Each of the companies at Rhein-Main had 384 men on each shift, while those at Wiesbaden had 170 per shift. Ten-man teams loaded each aircraft, and each worker was expected to load one ton per hour. In exchange, the workers earned a daily ration of 2,900 calories, which included a hot meal at the air base. Initially, it took as long as five hours to load a C-47, but as the men gained experience and new techniques were developed, the time dropped to an average of five minutes per airplane. Loading the big C-54s took more time, ultimately requiring an average of twenty-five minutes for standard commodities and about forty minutes for awkward cargo like pierced steel planking.²⁵⁹

Load checkers were a vital element in the airlift. They were responsible for ensuring that each aircraft carried no more than the maximum load allowed. If they failed in their responsibility and the aircraft was overloaded, the aircraft and its crew could be lost. Load checking was an air force responsibility, but the initial, serious shortage was made up by taking enlisted men from the EUCOM School Center.²⁶⁰

At Tempelhof, the transportation officer for the garrison took charge of receiving and handling cargo at the aerial port of debarkation at Tempelhof Air Base and ensured that the incoming materials did not clog the airport. EUCOM trucking units delivered food from Tempelhof to OMGUS depots in the city and also to designated points in the French zone. By the end of July, EUCOM had thirty tractors, forty "6 x 6" trucks, and forty-four 10-ton trailers at Tempelhof. The British provided all ground transport at Gatow, the French at Tegel.²⁶¹

At the receiving end of the airlift, it was important to clear the cargo off the base immediately and get it to city warehouses for distribution across Berlin. Timing, again, was the key. Empty trucks waited as each aircraft landed. The truck driver kept an eye on the "Follow Me" jeep and had



already turned and begun backing his truck before the airplane had parked. When the aircraft's door opened, the truck with twelve laborers was waiting. If the cargo was coal, empty bags were first thrown from the truck to the aircraft, a process that took about two minutes. At the same time a ramp was set up from the aircraft to the truck and half the crew of laborers began sliding bags of coal down the ramp where the other half of the crew stacked them. The truck then proceeded to the scale house where it was weighed and then to the railhead where the same laborers emptied the sacks into freight cars. German rail personnel then delivered the freight cars to redistribution points where it could be distributed across the German economy. Problems at this end of the lift were usually the result of unexpected surges in the number of aircraft arriving, which tended to break down the system.²⁶²

The German magistrat in Berlin provided German labor at the airheads under U.S. Army supervision. Some 600 workers began at Tempelhof on June 30, 200 per shift for three shifts. This number rose steadily to 500 per shift, through November. Thereafter, the number began to decline gradually, thanks to more efficient handling techniques and equipment. In December, laborers handled 24 percent more cargo with 24 percent fewer trucks and 22 percent less workers. In addition to serving as laborers, German civilians at Tempelhof also served as truck drivers. One of the great draws, as elsewhere on the airlift, was the hot noon meal provided each worker. The EUCOM units at Tempelhof worked hard at reducing the unloading time for each aircraft. By the end of July, the unloading time per C-47 ranged from eight to forty-five minutes, with thirty minutes being a good average.²⁶³

At its peak, the Transportation Corps had 55 officers, 295 enlisted men, 3,000 German laborers, and several truck companies providing the ground support necessary to enable the airlift to operate successfully. EUCOM formed provisional truck companies from combat and service units to meet the needs of the railheads supporting the Berlin Airlift. Each heavy truck company was equipped with 48 tractors and 96 trailers. Army support for the Berlin Airlift included 336 truck tractors and 672 ten-ton trailers. Of these, Transportation Corps units at Rhein-Main and Wiesbaden had 288 trucks and 476 trailers. The number of trucks at Tempelhof, however, declined throughout the airlift as the ground operations became more efficient. Tempelhof began the lift with 108 trucks in July. These had been reduced to 79 by December, 76 in January, 66 in February, 61 in March, and 59 in May. The average number of tons moved per vehicle per month rose from 905.2 in December to 1,225.5 in March. The factors that allowed the improvements at Tempelhof included the construction of better roads, use of a single ready line, and an increase in warehouse space at Tempelhof eliminating the need to use trucks for the temporary storage of cargo.²⁶⁴

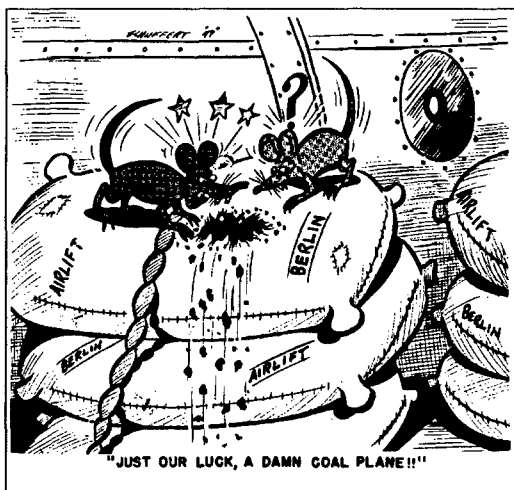
The airlift was hard on truck equipment. Much of the Army's equipment was older and had already seen much service. Axles, bearings, clutches, engines, tires, and batteries broke or wore out quickly. Shortages of parts "deadlined" many vehicles. The army also suffered from a shortage of truck mechanics and, like the Air Force, ultimately turned to a civilian source for

these. Displaced personnel from Poland, supervised by military personnel provided much of the truck maintenance at Rhein-Main. The assignment of an additional truck company to Rhein-Main in January considerably reduced the maintenance burden, while a new schedule lessened the tremendous demands on both equipment and personnel. Army personnel later concluded that vehicles subjected to round-the-clock operation in harsh weather and poor roads could be maintained indefinitely as long as personnel followed proper maintenance procedures, sufficient spare parts and tires were available, and enough rebuilt engines were on hand.²⁶⁵

Some Uncommon Cargos

Cargo loading on the Berlin Airlift was both a science and an art form. Weight was everything. The goal was to deliver as much tonnage to Berlin as possible, but the amount of cargo carried by each aircraft had to be carefully determined and even more carefully controlled. A C-54 was capable of carrying fourteen-ton loads. However, one of the earliest decisions was to limit loads to ten tons, thus decreasing the wear and tear on engines and landing gear. The system developed on the airlift called for one trailer to contain the ten-ton load for one airplane. This goal was relatively simple when the cargo for an airplane consisted of a single commodity like coal. In the case of dissimilar cargo, however, army personnel had to properly marry mixed high- and low-density loads to ensure the full use of each aircraft's tonnage capacity. Most bases had platform scales to weigh the trailers and their loads prior to their being placed on the ready line. The army exercised additional control by weighing individual packages at the railheads. Without such checks, airlift personnel quickly learned, it was possible to overload an aircraft by as much as three tons. Additionally, much care had to be given to the loading itself.

Freight had to be balanced to maintain the aircraft's center of gravity, and preloading the trailers facilitated the process. In general, heavy, concentrated cargo was placed at the rear of each trailer so that it could be loaded to the front of the airplane's fuselage facilitating the process of ensuring that the aircraft would not be tail heavy. Additionally, light cargo could be loaded on top of heavier items to prevent crushing.²⁶⁶



In contrast to the "Hump" in China where gasoline was the major cargo, the primary payload carried by the Berlin Airlift was coal. Ultimately, coal made up about 65 percent of all cargo flown, and it proved to be dirty, nasty stuff that caused all sorts of hazards for the airplanes and air crews. The fundamental problem was coal dust, which filled the cabins and coated everything that it touched. Pilots and crew complained of headaches and breathing problems, and the dust corroded control cables, eroded electrical connections, and added additional weight to the plane. Attempts to control the dust were many and often ingenious.²⁶⁷

USAFE initially considered using the B-29's bombing capability to drop coal. The idea had great merit. The B-29 could carry ten tons of bombs and dropping the coal would provide immediate turnaround time for deliveries. On the other hand, the size and speed of the B-29 would make it difficult to operate in the narrow corridors, and suitable "coal bombing" areas in Berlin were limited. Further, operating a strategic bomber in the Berlin area might prove highly provocative and escalate the crisis. Perhaps most significantly, LeMay opposed committing the air force's major combat striking force to a mission outside that role. He agreed, however, to conduct tests on the feasibility of delivering coal in sacks hooked to the bomb shackles. The tests proved that bombing with coal was not the answer; the coal turned to powder when it hit the ground.²⁶⁸

USAFE turned to bags and the Quartermaster Corps provided almost 500,000 canvas duffel bags for use as coal sacks. Additionally, EUCOM procured jute bags in England and in Switzerland, although these would last only from three to five trips compared to ten for the preferred duffel bags. Based upon these figures, airlift planners figured that the airlift required about 850,000 sacks per month at a cost of about \$250,000 each month. The answer ultimately lay in the development of inexpensive, multi-ply paper sacks manufactured specifically for the airlift. These were successfully tested in March 1949 and were in extensive use by May. Manufactured by German companies for a penny each, the paper bags reduced the cost of bags to about \$12,000 per month.²⁶⁹

Whether the airplanes carried bags made of canvas, jute, or several layers of paper, dust still escaped, seeped into nooks and crannies of the aircraft coating equipment, damaging systems, and adding unnecessary weight. Loading crews tried to wet down the coal, but this step added extra weight and still failed to solve the problem. Airlift crews even made some attempt to seal off the cargo hold to no avail. "[A]t present," minutes for the Airlift Task Force staff meeting on August 14 reported, "it is estimated that between three and four hundred pounds of coal are being carried back from Berlin."²⁷⁰ Tunner's staff directed that every aircraft be carefully swept in Berlin, and that EUCOM be requested to provide personnel for the job. German civilians swept the airplanes carefully after unloading, often collecting several pounds of dust. Still the problem remained. Finally, a mechanic created a system that used a hose and the vacuum created by the airplane's slip stream to suck the dust out dur-



“The answer to delivering coal proved to be inexpensive, multi-ply paper sacks.” Here bags of coal destined for Berlin are transferred from a British lorry to a U.S. C-54 by a German labor crew at Fassberg. (*U.S. Air Force.*)

ing the return trip. Even this setup was imperfect, and well into the 1960s mechanics servicing Skytrains and Skymasters could find deposits of coal dust in inaccessible sections of the aircraft. Additionally, some thirty-eight C-54s were stripped of excess equipment, specifically enabling them to carry an extra 2,500 pounds of coal. These were designated C-54Ms.²⁷¹

Two special cargos, as already mentioned, became the responsibility of the Royal Air Force, which had access to especially equipped aircraft. Shipping fuel by air had always been an inconvenience. On the Hump, gasoline had been transported in cumbersome and inefficient fifty-five-gallon drums. The British addressed the problem by bringing in a fleet of mostly civilian tanker aircraft, and, from then on, the delivery of liquid fuel became their responsibility. The RAF also came to the rescue with salt, an extremely corrosive substance capable of eating many aviation-related metal alloys. The

British began by making deliveries in their big Sunderland flying boats. The Sunderlands had control systems that ran along the upper spine of the aircraft, where in most aircraft they ran along the bottom of the fuselage, making them vulnerable to salt filtering down from the cargo hold. Later, when winter froze the lakes, the RAF turned to Halifax bombers equipped to carry salt in a pannier under the fuselage.²⁷²

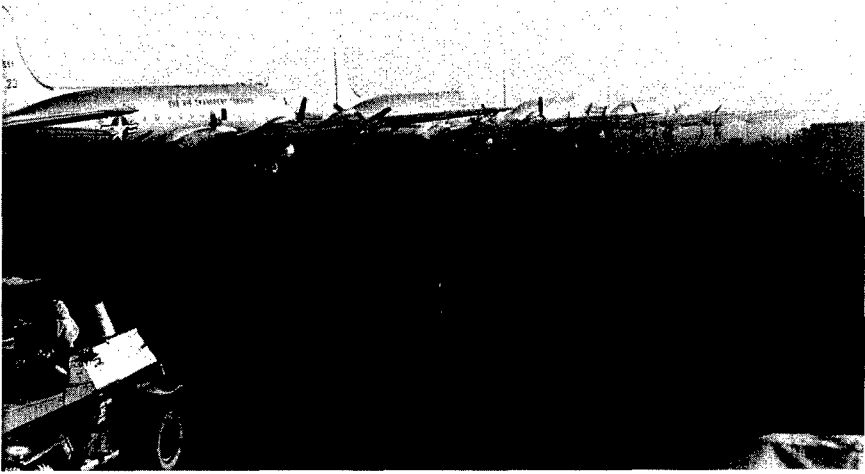
And as already noted, the C-82 Packets and giant C-74 proved especially useful for carrying the heavy equipment required for runway construction in Berlin. Even these, however, were unable to carry some items. The Pentagon sought out airfield engineer H. P. Lacombe, who had learned his trade in South America. A maestro with an acetylene torch, Lacombe cut up everything from caterpillar tractors to road graders, numbered the parts, and had them flown into Berlin, where he welded them together. The rapid construction of additional runways at Tempelhof and the airfield at Tegel, which were instrumental in the growth of the airlift, owed much to this technique.²⁷³

Finally, one must note one further difficulty with cargo. Pilferage, while understandable, proved a reasonably serious problem, especially at Tempelhof, where workers were ingenious in their methods of siphoning off and hiding sugar, flour, butter, and other food items. Too much of this food ended up on the black market. Theft of shoes was also a problem until OMGUS directed that only left or right shoes be shipped for several days. This step ended the problem. During the airlift about 100 laborers were fired from their jobs at Tempelhof for pilfering.²⁷⁴

The Airlift Meets "General Winter"

The arrival of aircraft, personnel, and supplies; the construction programs in Berlin; and the operational improvements instituted by Tunner and his staff made their mark and the tonnage delivered by the airlift went up steadily. In September the combined airlift delivered 139,622.9 tons of cargo to Berlin, an average of 4,655.4 tons per day. During the following month, it delivered 147,580.8 tons, an average of 4,760.7 tons per day. As of the end of October, the airlift had delivered a cumulative total of 332,467 tons of cargo comprising 97.9 percent of the city's food requirements, but only 73.77 percent of the coal requirement. The previous week had seen a drop in deliveries thanks to the weather conditions, and forecasts for the next week projected little improvement because of anticipated problems with weather and maintenance. Planners anticipated a 66 percent availability rate for the C-54s. Berlin had reserve stocks for forty-two days for food, fifty-three days for coal dedicated to utilities, and fifty-two days for other coal. Despite the foreboding situation, military planners planned to increase the daily food ration in the western sectors of Berlin by 250 calories and improve its quality with additional amounts of oats, milk, and sugar.²⁷⁵

The Combined Airlift Task Force now faced its most serious obstacle, the weather conditions that Soviet leaders, and not a few Western leaders, believed



"The airlift meets 'General Winter.'" A line of C-54s based at Fassberg in the British zone of occupation being unloaded at Gatow in the early morning mist and fog. The piles of coal along the taxiway are the residue from the unloading swept up for later collection and rebagging. (*U.S. Air Force.*)

would bring the Berlin Airlift to a halt. "General Winter, the unconquerable Russian general, positively frowned on us," the embattled American commandant in Berlin, Colonel Howley, later wrote, "and we could almost hear the Russians guffawing through the Iron Curtain."²⁷⁶ The major flying hazard was the thick, heavy fog that blanketed the bases.²⁷⁷ In early November, Lucius Clay flew into Tempelhof through miserable German weather.

Thanks to the effectiveness of GCA and its well-trained operators, we landed without accident but with our brakes hot. When the tower directed us to the taxiway we found the visibility so poor that we dare not move farther down the runway. We were unable to follow the jeep that was sent to guide us and finally reached the unloading ramp guided by an airman under each wing signaling with flashlights.²⁷⁸

Clay's words, "Thanks to the effectiveness of GCA and its well-trained operators", could have been the mantra of the Berlin Airlift that winter. The establishment of GCA units along with high intensity landing lights and other navigational aids enabled the Skymasters to operate in all but the worst weather and gave the airlift a chance.

The other prerequisite to success was additional aircraft. Soon after his arrival in Germany, Tunner had written General Kuter that "the key to the whole problem is big airplanes and lots of them." The only limit, he reported, was the number of aircraft that the facilities in Berlin could handle. Based on those available and those planned, 225 C-54s based at Rhein-Main, Wiesbaden, and Fassberg would saturate the corridors into Berlin. On the August 13, Kuter replied that plans for augmenting the airlift to 225 aircraft

were being drawn up, and MATS would be in a position to take immediate action as soon as National Security Council approved.²⁷⁹

At the end of September, American airlift forces consisted of the 60th and 61st Troop Carrier Groups and 1420th and 1422nd Air Transport Groups. The 60th flew its last C-47 mission on September 30, and was replaced by the thirty-six C-54s of the 317th Troop Carrier Group that began arriving at Wiesbaden from Japan on that date. Pilots from the 60th either joined the 317th or were distributed between Wiesbaden, Rhein-Main, and Fassberg to correct an imbalance between pilots and copilots. Subsequently, in mid-October twelve of the 317th's aircraft went to Fassberg where, because of the distances involved, one C-54 was equal to 1.6 C-54s at Wiesbaden.²⁸⁰

But this force was insufficient and Clay requested 116 additional aircraft on September 10 and again on September 23, enough, he believed, to raise the airlift capacity to 8,000 tons daily in good flying weather and an average capacity of 4,500 tons in poor weather. As a result, the air force prepared a plan that called for the Navy to furnish thirty C-54s and sixty crews and MATS to provide thirty-six C-54s as soon as crews were trained and USAFE was ready for them. The air force provided fifty of the aircraft in September. However, there were continued delays in delivering the C-54s to Germany. Ordered to increase the C-54 maintenance pool in the United States with thirty-six additional aircraft, General Kuter complied but protested that "MATS cannot provide additional C-54 aircraft to support Operation VITTLES without further reductions in our long-line regularly scheduled air transport operations." Kuter recommended a policy of taking C-54s from commands other than MATS and that the Navy provide R5Ds from those assigned by the Navy to MATS. Then and only then should the Air Staff ask for additional MATS aircraft.²⁸¹ Kuter's protest was in vain. Two days later, on September 24, Vandenberg established his policy to "reorient MATS as completely as practicable to the support of and direct participation in 'Vittles'."²⁸² Vandenberg did agree to request additional R5Ds from the Navy, but he determined not to take additional C-54s from the troop carrier units assigned to overseas commands for the time being.²⁸³

Even with this approval, delays in getting Skymasters to Germany continued. Clay, with the winter weather staring him in the face, protested the delays on October 4 and again on ten days later. "*We have proved that given the airplanes we can meet needs,*" Clay emphasized, "*Please send us the right airplanes now.*"²⁸⁴ He visited Washington again in October and asked for sixty-four additional C-54s, giving the airlift a total of 224. Augmentation, however, continued to pose serious problems for the Joint Chiefs who remained concerned about the nation's vast, worldwide commitment and limited resources. The drain of aircraft had already seriously affected air transport support around the world; aircraft dedicated to emergency operations had already been siphoned off; and the 16,000 men sent to Germany had reduced several technical specialties critically Air Force-wide.²⁸⁵ In the view of the Joint Chiefs of Staff:

With increases in personnel and funds the Berlin air lift can be continued indefinitely. Our present military power cannot effectively

support the supply of Berlin by air lift on an indefinite basis, however, without such a diversion of military effort as has affected and will continue to affect the ability of the National Military Establishment to meet its primary national security responsibilities.²⁸⁶

Despite these warnings, the National Security Council approved Clay's request on October 18, and the Pentagon notified General Clay on October 19. On October 22, 1948, President Truman formally authorized an increase in air-lift strength by sixty-six C-54s.²⁸⁷

On September 18, 1948, the U.S. Air Force celebrated its birth. In recognition of "Air Force Day," Tunner determined to set a record in tonnage delivered in a 24-hour period between noon on the 17th and noon on the 18th, and Clay directed that all aircraft deliver coal to be distributed to the German public as a special ration. In those 24 hours, Skymasters delivered 5,000.4 tons, C-47s 417.6 tons, C-82s, 50.3 tons, and the lone C-74 114.4 tons for an official total of 5,582.7 tons. Added to the British delivery of 1,405.3 tons, the total delivery for the period was 6,988.7 tons of cargo. Much of the success of the Air Force Day lift was attributable to the rapid turnaround times in Berlin, with C-54s being unloaded in as few as seven and a half minutes and C-47s in three and a half. Additionally, the C-74 made six round trips. During one of these deliveries, German ground crews unloaded just over nineteen tons of coal in twelve minutes.²⁸⁸ It was a potent demonstration of things to come. "I feel... sure that the record lift of 5,500 tons of coal carried by your planes on Air Force Day, with all its implications, did not escape the attention of our Russian friends," Royall wrote Symington in congratulations.²⁸⁹

Sir Brian Robertson, however, took the opportunity to express doubts about the ability of the airlift to continue through the winter. Tunner replied that the best answer to Robertson's concerns was the record tonnage delivered on Air Force Day. He also told Robertson that he believed that the airlift could average 8,000 tons each day in good weather, more with the completion of Tegel. "At present we are holding our own," he concluded, "and my records show that food and total coal reserves equal the quantities available at the start of the airlift."²⁹⁰ When the additional aircraft requested arrived, Tunner was confident that the airlift could carry the city through to spring.²⁹¹

Meeting with the French and British foreign ministers in Paris, General Clay also found deep reservations about Allied ability to maintain the airlift during the coming months. Clay, like Tunner, cited Air Force Day as proof that the airlift could land over 800 airplanes per day in Berlin (they actually landed 861 in eighteen hours), and with that number of C-54 landings, the airlift could deliver 8,000 tons of cargo per day on good days, almost as much as had been delivered by train and truck. Even with a loss of 30 percent of flying days to bad weather, the airlift would still deliver well over the 4,500 ton minimum requirements. The key was the Skymasters. Tunner had to have the sixty-nine requested on September 10 to meet minimum needs, and, even more important, to build up winter reserves.²⁹²

By early November, Clay was still seriously concerned over the delay in

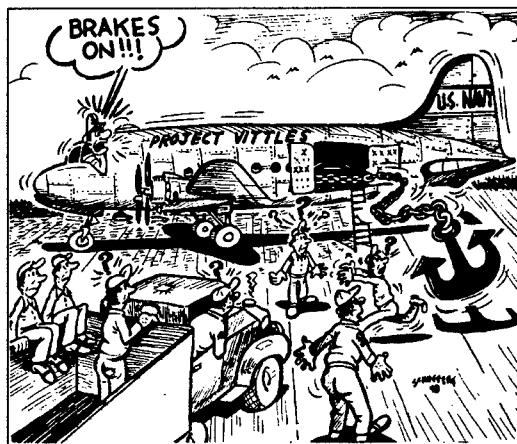
strengthening the airlift and by the fact that it was falling seriously below minimum requirements. Air Force reports on November 9 listed 258 C-54s assigned to Operation Vittles, but only 169 actually available for operations. The others were either going to or from Germany for overhaul, in stateside repair depots, or training aircrews in Great Falls, Montana. The Pentagon, however, faced difficulty finding the aircraft and crews, and interpreted the requirement for sixty-six C-54s approved by the President to include aircraft in the maintenance pipeline as well as those operating on the airlift: only forty-four would be sent to Germany under this interpretation. The remaining aircraft would be placed in overhaul pools in the United States without crews. Their availability would depend on the advent of crews and spare engines. In response, Clay emphasized that when he talked about 225 aircraft, he meant those in the corridors, not stuck somewhere in the maintenance pipeline. Cannon weighed in, supporting Clay and stressing the need for 225 Skymasters in Germany by January 1.²⁹³

Ultimately, the last nineteen aircraft reaching Europe in January 1949, three less than that authorized by the National Security Council, for a total of 201 air force and 24 navy aircraft in Germany and 67 air force and 8 navy aircraft in the maintenance and inspection pipeline. Counting the additional 16 C-54s at the replacement training unit and 3 in the pipeline, the Air Force had 287 C-54s assigned to the Berlin Airlift by the end of January 1949. Only 169 C-54s remained to service critical air transport routes, aided by the 40 C-54s leased by the U.S. Air Force to civilian air carriers. Subsequent experience in January and February 1949 showed the need for an additional twenty-five aircraft in the maintenance pipeline, and by April these had been assigned. At its greatest strength, subtracting for attrition, the airlift had 312 C-54s out of the total of 441 C-54s in the air force inventory.²⁹⁴

"Anchors Aweigh"

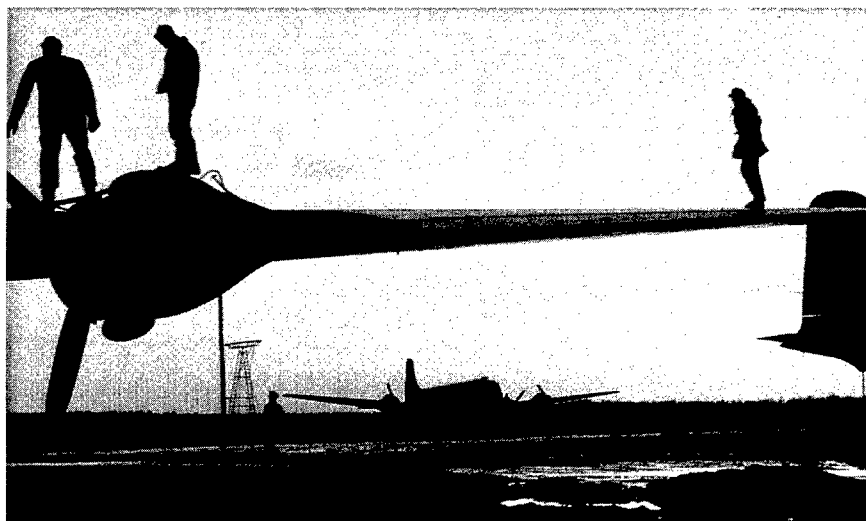
Among the new arrivals in November were two squadrons of U.S. Navy cargo planes. On October 19, Secretary Symington asked the Secretary of the Navy for twenty-four R5Ds, the navy version of the C-54, each with three air crews. Symington preferred that these be taken from units outside MATS, but this arrangement proved impracticable. Two units assigned to MATS routes in the Pacific, VR-6 stationed at Honolulu and VR-8 at Guam, were selected for duty in Germany. Marine Transport Squadron 352, with fifteen transports, took over the MATS duties performed by the two squadrons. Additionally, a third navy squadron, VR-3 with fifteen aircraft, provided trans-Atlantic support for the Berlin airlift, and VR-44, a transport training squadron, provided pilot training for replacement crews.²⁹⁵

Initially, USAFE officials were concerned about the decision to send navy R5Ds to Germany, because they feared that step would unnecessarily complicate logistical support. It turned out, however, that most R5D parts and equipment were interchangeable with C-54 parts. Additionally, the navy brought its

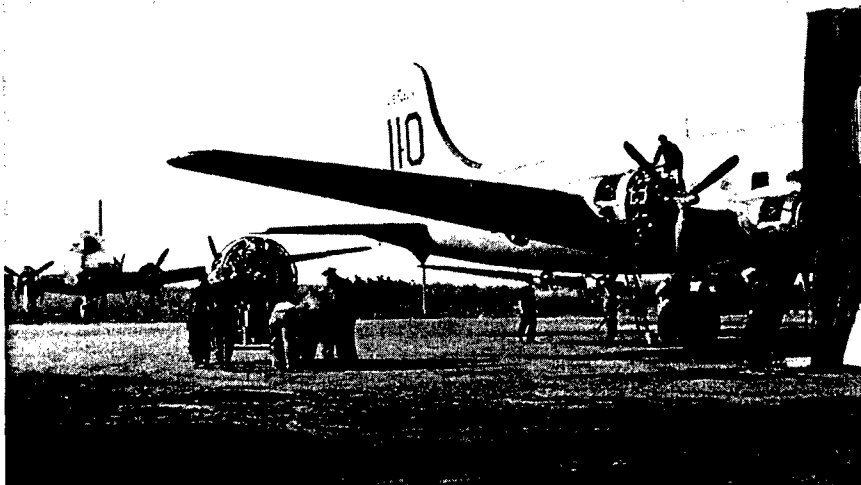


own stocks, and supplied its own R-2000-9 engines using navy transportation. In other arrangements, the air force agreed to furnish parts to the navy from its stocks on the same basis as the C-54s, and to repair navy parts in Europe on the same basis as it repaired air force parts. Navy parts not reparable in Europe would be returned to the navy depots in the United States through navy supply channels.²⁹⁶

The first R5D, from VR-8, reached Rhein-Main on November 9, 1948, landing in a pouring rain that saturated the base and covered the tarmac with eight inches of water. It was weather typical of Germany in November, but seemingly provided especially to welcome the navy. Tunner met the airplane, and he later wrote that it was difficult to tell who was more embarrassed: the navy officers in dress uniforms and spit-polished shoes concerned about stepping onto the flooded ground, or the air force general standing calf-deep in water trying to maintain his dignity. The R5D flew its first mission into Berlin four hours after its arrival. The last aircraft from VR-8 reached Rhein-Main on



"U.S. Navy transport squadron VR-6 completed its movement to Rhein-Main on November 22, 1948." Here, Navy crews are refueling their R5Ds at dawn. (© Courtesy, Barry Conklin, Denver, Colorado.)



"The Navy squadrons were manned with a large number of experienced mechanics." Here R5D number 110 receives a new engine at Rhein-Main.
(© Courtesy, Barry Conklin, Denver, Colorado.)

November 15; VR-6 completed its movement on the 22nd. The CALTF headquarters attached VR-6 to the 513th Troop Carrier Group and VR-8 to the 61st Troop Carrier Group.²⁹⁷

Despite early planning, spare engines proved a significant problem. On November 20, General Cannon reported that the navy squadrons at Rhein-Main lacked facilities for engine buildup. Accordingly, the navy had only one reserve engine, but required ten. He wanted the navy to ship nine engines immediately and two more each week. Failing that, Cannon wanted the navy to ship unbuilt engines and authorize the buildup of navy engines at Rhein-Main. The navy, in reply, pointed out that ten engines had been shipped with the R5D squadrons and ten more by sea, and were due to arrive in Frankfurt by December 5. All future shipments would be by air. The navy's solution was a higher priority for the return of navy engines to the West Coast for overhaul. But, in any case, the shortage of engines was severe, ultimately forcing mixed installation of R-2000-9s and R-2000-9As on some R5Ds.²⁹⁸

The great strength of the two navy squadrons lay in the quality of their personnel. The aircrews proved well-trained, and the pilots had considerable experience with GCA which served them well in the winter conditions in Germany. The two squadrons were also manned with a large number of experienced mechanics. Since, unlike their air force counterparts, the navy squadrons were expected to accomplish 200-hour inspections, VR-6 and VR-8 had more maintenance personnel assigned than air force squadrons, and these included a high concentration of skilled technicians. And since Burtonwood in England conducted 200-hour inspections for the airlift, these were available now for day-to-day servicing of their aircraft. In general, VR-6

and VR-8 hauled more tonnage per aircraft and maintained a higher rate of aircraft utilization than their air force counterparts. The two units made an important contribution to Operation Vittles.²⁹⁹

Airlift, November 1948—May 1949

November was the worst month for the Berlin Airlift. The airlift had shown a steady rise in the amount of cargo delivered through the end of October. During that month, the American and British effort had delivered 147,580.8 tons, an average of 4,760.7 tons per day. But in November the weather closed in on the Berlin run. To deal with some of the winter conditions, Tempelhof had 5,000 cubic yards of sand that could be spread in case of ice, and, if necessary, the airfield could call on Berlin's administration for the five pieces of snow removal equipment available. These, added to the equipment already at the field, proved sufficient to deal with snow.³⁰⁰ But nothing available could remove the fog. Colonel Howley, the American Commandant in Berlin, provided a dramatic description of the situation:

The worst enemy of air operations is not cold, but fog, and we had plenty of that, too—thick impenetrable fog. November and December were bad months. During November, fifteen of the thirty days were almost impossible for flying, and December wasn't much better.... Fog-bound November and December were the acid test of the airlift. If we could put these two normally bad flying months behind us without serious disaster to the people we were feeding, and could get well into January, we should know that we had the blockade licked.³⁰¹

It was a close run thing. Deliveries by the Combined Airlift Task Force dropped from 147,580.8 tons in October to 113,587.9 tons in November, the lowest monthly total since July. This averaged out at 3,786.3 tons per day, well below the 4,500-ton minimum that Berlin required.³⁰²

Some of the techniques worked out in November helped, others did not. Most successful, was the airlift's ability to take advantage of spells of good weather. When favorable conditions appeared on November 6, for example, General Tunner called all of his commanding officers and the RAF's No. 46 Group and directed them to make a maximum effort to take advantage of the situation. On the other hand, the plan to divert C-54s from Rhein-Main and Wiesbaden to Fassberg and Celle, which averaged better conditions, yielded mixed results. On November 10, eighteen C-54s transferred to the British zone bases for several days. On the one hand, the entire American airlift delivery for the twenty-four hours ending at noon on the 12th was from Fassberg. However, it proved difficult to service the aircraft or provide the necessary field maintenance thanks to the shortage of equipment, personnel, and parts. This experiment was considered a success, in general, and would be repeated, but it was apparent that it was a limited solution to the bad weather problem, and was unprofitable unless the weather remained below minimum flying conditions for longer than twenty-four hours.³⁰³

Despite the lost flying time and extreme hardships, the main lesson of November was increased confidence in the airlift. While it was true that the overall tonnage delivered had declined severely, "there was a growing certainty on the part of Task Force Headquarters that the mission could be successfully accomplished throughout the winter."³⁰⁴ On November 22, General Clay increased the daily airlift requirement to 5,620 tons beginning in January. This figure included 375 tons of military supplies for the U.S., 285 for the British, and 113 for the French. Coal remained the major cargo, 2,534 tons for industrial use and 550 for heating. Based upon these figures the airlift was running an average of 1,490 tons of coal per day below the requirement. However, Clay expected to reach his goals by January.³⁰⁵

The primary reasons for increased confidence was the success of GCA, the opening of Tegel and the new runways at Tempelhof, the arrival additional personnel, and the advent of more aircraft. The airlift had 177 C-54s on November 24, would have 206 by December 1st, and would reach 225 by January 1949. The American forces in the airlift at the end of the November consisted of the 7480th Air Force Wing at Celle; the 61st Troop Carrier Group (Heavy) and 513th Troop Carrier Group at Rhein-Main; the 7169th Weather Reconnaissance Squadron, 7150th Air Force Composite Wing, and 317th Troop Carrier Group at Wiesbaden; 313th Troop Carrier Wing (Heavy) at Fassberg; and the 7350th Air Base Group at Tempelhof with a detachment each at Gatow and Tegel. Two Air Traffic Control Centers were at Tempelhof and Frankfurt am Main. Later, the 317th moved to Celle when that base became operational. The 313th at Fassberg consisted of the 513th Maintenance Supply Group and 313th Troop Carrier Group. At Rhein-Main the Navy's VR-8 Transport Squadron functioned as one of the 61st Troop Carrier Group's four squadrons, while VR-6 Transport Squadron reported to the 513th.³⁰⁶

General Vandenberg visited Germany in early December and found that the men were doing well, but suffering greatly in many cases because they had been separated from their families on short notice and because many dependents were at overseas locations like Guam, the Philippine Islands, and Alaska. In its efforts to establish the airlift and make it succeed, the air force had overlooked the welfare of these wives and children. Husbands and fathers had been whisked off to Germany with little notice leaving families confused, lonely, and, in some cases, in dire circumstances. Vandenberg ordered all overseas commanders to give special attention to this situation. Also, he directed "Project Sleighbells" a special airlift of letters and packages between overseas dependents and airlift personnel. Delivery took place by Christmas eve.³⁰⁷

December saw significant improvement in tonnage. The weather proved less severe than in November. Total tonnage increased to 141,438.1 tons, an average of 4,562.5 tons per day. While the total was still below that delivered in October, it reflected considerable improvement over the November effort, and moved the daily average above the minimum required by Berlin once more. On the last day of 1948, 526 flights delivered 5,120.4 tons of cargo to

Berlin. At the same time, the RAF delivered an additional 1,007.4 tons for a total airlift of 6,127.8 tons.³⁰⁸

At the end of 1948, the airlift was more than meeting the requirements of western Berlin for food, justifying its nickname, "Operation Vittles." Liquid fuels also had been delivered in amounts far greater than required thanks to the RAF's superb tanker fleet. Coal was a different matter. Deliveries through the end of December proved insufficient to meet the requirements as set by OMGUS; however, enough had arrived to meet most essential requirements. Despite serious supply shortages and maintenance difficulties, the logistical infrastructure that undergirded the airlift had proven effective enough to keep sufficient aircraft flying.³⁰⁹

Coal remained the most serious concern. A news despatch in December caused a flurry of concern in the Pentagon by forecasting a coal crisis in January. Clay reported that as of December 24, Berlin had a nineteen day reserve of utility coal and a twenty day reserve of heating coal. Based on a daily average delivery of 5,141 tons, the airlift would deliver an average of 3,073 tons of coal daily, enough to maintain current reserves without reducing allocations to bakers, hospitals, and essential industries. Any increase over the quantities delivered would be added to the Berlin stockpiles. In short, unless there was a major crisis with the airlift, Clay saw no need for concern.³¹⁰

The fact that most of the coal delivered by the airlift went to industry and utilities limited that available to households. As of early January, this allocation totalled 27,000 tons for a population of 2,100,000, giving each family from 25 to 30 pounds of coal. Although this supply was eked out with firewood from many sources, but it was still a cold, hard winter for most Berliners. The food supply, on the other hand, appeared to be less of a problem. On the average, Berliners received 2,300 calories per person per day, about 10 percent of which was "scrounged." Nutrition had generally improved during the blockade despite a shortage of fresh vegetables, especially potatoes, thanks to the use of vitamin pills and dehydrated foodstuffs. However, if Berliners had a serious complaint about the Airlift, it was that it should bring in a greater variety and quantity of food.³¹¹

The Soviet blockade also severely reduced electric current. Most Berliners received electricity for no more than four hours each day at extremely odd hours on a weekly rotation. The few substitutions available were extremely expensive. Thus, the vast majority of Berliners had to adjust. For some, all meals for a day might have to be cooked after midnight, and there was the dentist's wife who pedaled a bicycle to generate the electricity for her husband's drill. The blockade reduced street car service by 40 percent and subway service by 50. The Soviets did not cut service to the elevated railway, the S-Bahn, because they had to use it themselves, so most Berliners shifted to that mode of transportation wherever possible. Social life almost ended after dark, except in certain quarters. Possibly most important was the crippling effect of the blockade on the rebuilding of Berlin. The shortage of materials almost ended the construction of residential housing for the time being. Unemployment was

a serious concern, not only to the Berliners without a paycheck, but to the Allied authorities as well. Of some 900,000 Berliners gainfully employed, the blockade threw some 10 percent out of work. Since the unemployed received a ration card, this factor had little effect from a nutritional standpoint, however, enforced idleness posed a serious morale problem and threatened public and political stability.³¹²

Yet, the vast majority of the Berliners, showing the tremendous strength and will that had enabled them to survive the devastating Allied bombing campaign against the city just a few years earlier, refused to buckle. It would be wrong, as many have done, to write that "morale remained high." However, it is fair to say that, despite everything, the population of the Western sectors of the city exhibited a resilient, hard-bought toughness that rejected surrender to the Soviet Union and ensured the success of the airlift. An army intelligence summary on January 13, 1949, observed that: "Faith in the airlift and in the willingness of the Western Powers' determination to remain in the city has increased since the beginning of the winter." And it concluded accurately that "unless the situation becomes definitely worse, the population of the West sectors of Berlin may be relied upon to support the policy of the Western Powers through this winter."³¹³

January saw victory. The milder winter weather held; more C-54s had arrived, the maintenance system had improved; the supply of spares and parts had grown; and the management principals Tunner had instituted were taking firm hold. The total tonnage jumped to 171,959.2 tons, an average of 5,547 tons per day.³¹⁴

The weather in February returned to the conditions that had made November so difficult, thus total tonnage dropped somewhat. However, the strength of the airlift was such that it still delivered 152,240.7 total tons, a daily average of 5,437.2 per day. The recovery in March was spectacular, however. Total tonnage jumped dramatically to 196,160.7 tons, an average of 6,327.8 tons each day, and from then on the airlift never looked back. Tonnage increased each month through July, reach a total during that month of 253,090 tons, an average of 8,164.2 tons daily.³¹⁵

On February 18th, the airlift delivered the millionth ton of cargo to Berlin. Dean Acheson, who had replaced George C. Marshall as secretary of state, recognized the feat and the importance of the airlift. The airlift had "sustained the physical existence and elemental human rights of more than two million Berliners," he wrote General Clay. In doing so:

The success of the Airlift has enabled the Western Powers to maintain their rights and discharge their obligations as prescribed by solemn international agreement and has given encouragement to the efforts of the Democratic peoples of Europe to resist the use of lawless force. Our Government offers its grateful commendation, in particular to the personnel of the Air Forces and to all units civilian and military. We are gratified that German citizens have given their unstinted help.³¹⁶

Challenges still remained, however. A crash on March 17 and another airplane undergoing major repairs reduced the airlift fleet below the 225

Skymasters required to maintain the air bridge. Consequently, the Joint Chiefs considered the transfer of two additional C-54s per month from Far East Air Forces (FEAF) beginning in April to cover attrition. FEAF immediately transferred two C-54s undergoing depot repair in the U.S. and planned to provide the additional aircraft through the same mechanism. This decision reduced FEAF to twenty C-54s, the minimum number, its commander figured, needed to meet essential requirements.³¹⁷

The success of the airlift amazed and appalled Soviet leaders. They had counted on "General Winter" to bring the bridge of airplanes to a halt. "General Winter" had failed, and, after the problems of November had been overcome, the steady drone of Pratt & Whitney engines at three-minute intervals was about as musical to them as acid rock to the ears of a connoisseur of Mozart. Indeed, it appeared to some of Marshal Sokolovsky's staff that the C-54 traffic pattern over Soviet headquarters was a calculated measure designed to thumb the American nose at them. A former Soviet officer remembered years later: "One would appear overhead, another would disappear over the horizon, and a third emerge, one after another, without interruption, like a conveyor belt."³¹⁸

And the airlift continued to meet the minimum requirements of the civilian population. Public health records for Berlin documented a consistent improvement in the people's health since 1945, and despite Soviet actions, the population in the Western sectors was better in terms of communicable diseases than during the previous winter. OMGUS concluded that: "On the premise that the airlift tonnage request is met, the loss of supplies from surrounding Soviet areas would not materially reduce the standard of living now existing in Berlin's western sectors during the winter months."³¹⁹

The "Easter Parade"

The most dramatic day of the airlift took place on April 18, 1949. By April, Tunner's conveyor belt was humming like a finely tuned machine. Tunner had 154 assorted British aircraft and 200 Skymasters operating in the corridors. Fifty charts in his headquarters, continuously maintained, provided a clear picture of the airlift around-the-clock. "Things were going too well," he later wrote. "It was necessary, I thought, to do something to shake up the command." Competition, once again would provide the answer. Tunner determined to pit his units against each other in an full-scale assault on the Berlin Airlift's tonnage record.³²⁰

The CALTF staff planned in great secrecy. If they had announced a quota and failed to achieve it for any reason, the Soviet propaganda machine would have trumpeted that failure to the world. They selected the weekend of April 15-16, because of the promise of ideal weather, and settled on one cargo, coal, although some mixed loads of other commodities were also transported. The Army's Transportation Corps assured Tunner's staff that well over 10,000 tons of coal had been stockpiled and would be readily available to the loading



"The Easter Parade." On April 16, 1949, the airlift established a new record for delivering cargo to Berlin. (*U.S. Air Force.*)

bases. Other planners massaged the maintenance schedule, ensuring that the largest number of aircraft possible were available on the target dates.

At noon on Saturday, April 15, sergeants from the Operations offices at each base posted the quotas for the next twenty-four hours. Since, the quotas were divided among the squadrons, the ultimate goal was not readily apparent, but rumors had gotten out and everyone on the airlift sensed that something big was taking place. Everyone, Tunner later wrote, from the colonels in command down to the laborers loading aircraft for little more than a hot meal put all their efforts into driving up the tonnage figures. Tunner first flew into Tempelhof to watch the operations from that end. He then went from base to base in the American and British zones observing, cajoling, prodding, and pushing.

The intense effort by everyone on the airlift succeeded. Seconds before the last aircraft left Rhein-Main on Sunday, April 16, someone totaled the final figures and, with a brush and bucket of red paint, inscribed "RECORD TONNAGE 12941 FLTS 1383" on the Skymaster's nose. The Easter Parade was a spectacular success, showcasing airlift's capacity to deliver huge amounts of cargo and demonstrating conclusively the ability of Tunner's system to manage an unprecedented density of traffic. The Easter Parade also had a side benefit. Some worried that the extra strain of setting this record would affect the subsequent performance of the air crews. In fact, as Tunner anticipated, the opposite occurred. For the ten days prior to the record, the airlift averaged 6,729 tons per day. The average beginning after the Easter Parade, however, was 8,893 tons per day.³²¹ Tunner and his staff had known for months that the

airlift would succeed. The Easter Parade provided dramatic demonstration of that fact.

Contingency Planning: Airlift to 1952

As of early December 1948, American leaders could see little evidence that the Berlin blockade would end soon. On December 7, Secretary Forrester directed the Department of the Army to take the lead in developing plans to continue the airlift if the Soviets maintained the blockade for up to three years. Secretary of the Army Royall asked General Clay to provide data projecting the average daily tonnage requirements, the additional funds required beyond normal requirements, the type of ground equipment needed, and the number of additional military personnel required.³²²

The most important point was that the amount of tonnage had to be increased. One way to increase tonnage had already been explored. In mid-September, Air Commodore R. N. Waite, in the British airlift headquarters, concluded that with the existing organization, basing, and operations, the airlift would fail and all stocks in Berlin would be exhausted about January 28, 1949. Waite calculated, however, that if the airlift was equipped with 240 C-54s, then the airlift could "scrape through," provided that the rate of flow into Berlin could be increased. Waite further proposed to base the U.S. aircraft in the British zone of occupation and retire the less-efficient British aircraft from the airlift. American planners reached the same conclusion at about the same time. On September 28, Clay wrote Vandenberg that to reach the maximum tonnage possible it would be best to use one standard airplane, the C-54s, and base these in the British zone. The same number of C-54s flying the shorter corridor from the British zone could deliver 50 percent more cargo than those operating through the southern corridor. Mathematically, operating the C-54s out of British bases and reducing the British operation to ground support for the C-54s was a logical plan. Ultimately, however, CALTF continued to increase tonnage through other measures and the idea of making the airlift a U.S.-only effort proved unnecessary. The CALTF did base Skymasters at Fassberg and Celle to take advantage of the shorter distance and better weather furnished by the British zone, but the Royal Air Force continued to make an important contribution to the airlift.³²³

In response to Secretary Royall's December request, CALTF planners projected Berlin's needs between April 1, 1949, and June 30, 1950, to determine the requirements necessary to ensure a significant improvement in the conditions of life in Berlin and a reasonably high level of employment for Berliners. The planners concluded that both goals would be possible within a daily average delivery of 8,685 tons of cargo. This increased tonnage would allow the basic ration to be raised from, 1990 to 2,100 calories and food stocks in Berlin to be increased from forty-two to forty-five days. More variety could be provided by such measures as delivering one-third of the potato ration in the form of fresh potatoes during winter months. The greater tonnage also allowed for

a substantial increase in coal for domestic heating, a measure important for morale. Additional coal could be devoted to increased electrical production, enabling the domestic electricity ration to be increased from four to five hours, and later to six hours daily. The rest of the tonnage would go primarily to commercial use, including gasoline for industrial users, electricity for longer running hours for street cars, and diesel fuel for buses. More tonnage would also be devoted to importing raw materials and consumer goods into Berlin. Beginning in July 1949, airlift tonnage would have to increase to 11,249 tons daily.³²⁴

Over the next few months, the CALTF planners concluded that meeting these demands with the existing airlift would require the complete commitment of the Air Force's entire C-54 fleet. Further, their figures were based upon a 65 percent incommission rate. The existing rate was 52.77 percent, so a major expansion of maintenance and support facilities would be necessary, along with a huge addition of parts, equipment and spares. The need for additional aircrew and support personnel was equally dramatic. CALTF planners also recommended further rationalizing the airlift by establishing standard bases of sixty aircraft. Experience had shown that sixty was the ideal number that could be serviced with maximum efficiency at one location. In January, the airlift was operating from seven bases in the British and American zones; one more would have to be opened to support the expanded lift. Based on its studies, CALTF planners concluded that the airlift could be sustained as long as the C-54s lasted.³²⁵

The end of the Skymasters's useful life, however, was fast approaching. By November 1952, they would reach 14,400 hours, passing their "second line life." Flying them beyond that date could be done only with excessive operational risks. New aircraft on the horizon—but not yet in the inventory—would have to begin reaching Germany in 1950 to continue the airlift beyond 1952. The "48 Group Program" then in effect for Fiscal Year (FY) 1949 included the delivery of fifty, four-engine Boeing C-97 "Stratofreighters" between July 1949 and March 1950, and if Congress approved the air force's proposed "57 Group Program," a further fifty-four C-97s would be purchased. More significantly, the "48 Group Program" also authorized the purchase of giant Douglas C-124 Globemaster IIs, a development of the C-74. The procurement schedule called for the first to reach the flightline in May 1950. CALTF planners concluded that delivery of the two new planes on schedule with a minimum of teething problems and a major construction program on runways, taxiways, and other infrastructure beginning in the summer of 1949 would enable the airlift to continue through at least 1952 and possibly indefinitely in the unlikely event that became necessary.³²⁶

Planning for an extended airlift went far enough that on December 20, Maj. Gen. Robert W. Douglass, Jr., General Cannon's chief of staff at HQ USAFE, asked for one engineer aviation group headquarters and service company, two engineer aviation battalions, and one engineer maintenance company to be sent to Germany. These were required, he reported, to construct the

runways, parking facilities, and other ground infrastructure necessary as the C-54s were phased out and replaced by larger aircraft during 1950 and 1951.³²⁷

Additionally, on January 1, Tunner submitted a proposal to modify the organization and deployment of the CATF in preparation for a long-term effort. Organizationally, he wanted further integration and collocation in his headquarters. The British and American staff sections responsible for operational planning and control were completely integrated, and he wanted that integration extended to the sections dealing with Traffic, Communications, and Air Installation (Works). He also recommended unification of command in the Berlin area, through the appointment of a single officer to coordinate activities at all three bases and the Berlin approach control center. Operationally, Tunner proposed taking advantage of the shorter distance between the British zone of occupation and Berlin by shifting all but sixty American C-54s to British bases. This step would require opening and manning an additional base in the north. Further, if most of the airlift operated out of that zone, he should be there also, and Tunner proposed relocating Combined Airlift Task Force headquarters to a British base. Finally, Burtonwood remained a problem. Tunner believed that his aircraft lost too much time when it came their turn to undergo inspection at the base in England. Moving most of the C-54s to the British zone would open up the American bases, and Tunner proposed transferring 200-hour inspections to Rhein-Main.³²⁸

Tunner's proposals were largely stillborn, however. General Cannon approved the unification of command in Berlin and greater integration of the CALTF staff, except for an Air Installations (Works) section. However, Cannon opposed the proposal to move most airlift operations out of the American zone and the use of Rhein-Main, an active operational base, for 200-hour inspections. He preferred to make Burtonwood more efficient, but if that failed and a depot had to be developed in Germany, he wanted it at some other location.³²⁹ Most significantly, events early in 1949 began to indicate that the airlift would not have to continue much longer.

"Blockade Ends; Airlift Wins"

By December 1948, Joseph Stalin appears to have recognized by that his policies in Germany had failed. His actions had contributed to, even hastened, the death of his goal of a united Germany within the Soviet orbit. Throughout the fall and winter of 1948-1949, the Western powers and German leaders continued the process of creating a separate West Germany and there was simply nothing that the Soviet Union could do to halt, slow, or divert the process. Further, establishment of the Western Alliance in the form of the North Atlantic Treaty Organization (NATO) was firmly on track, and neither Soviet threats nor offers could alter the process. The determining factor in the Soviet failure was the Berlin Airlift. It had succeeded, leaving the Soviet dictator with



"Blockade ends; Airlift wins." At Rhein-Main, an airlift crew celebrates news of the official lifting of the Berlin blockade while their aircraft is loaded for another trip to Berlin. Left to right they are SSgt. Claude Richeson, San Antonio, Texas, a veteran of 62 missions; 1st Lt. James R. Davis, Los Angeles, California, a veteran of 110 missions; and Capt. Alfred Rumberg, Phoenix, Arizona, a veteran of 90 missions, all from the 330th Troop Carrier Squadron. (*U.S. Air Force.*)

only the options of direct, brute force or a diplomatic settlement. Direct action risked war, something Stalin refused to consider. Negotiation was the only alternative. However, the Berlin Airlift ensured that the Western Allies did not have to negotiate under pressure.³³⁰

Further, as noted earlier, the Allied counter blockade imposed in response to the Soviet Union blockade hurt the Soviet occupation zone and Soviet standing in Germany more than the Soviet blockade hurt the Western zones of occupation. Eastern Germany lacked essential materials like coal and steel, and there was no equivalent to the airlift that could supply these necessary commodities. Western Germany further benefited from its access to the industrial resources of the West and, indirectly, from the aid provided through the Marshall Plan. From the beginning of the Berlin Crisis, Clay firmly believed that this state of affairs would ultimately force an end to the blockade. In December, a French political leader, Francois Seydoux, in a speech monitored closely by Soviet intelligence, conjectured that the Berlin blockade was worse than a failure; it was a positive embarrassment to the Soviet Union. Lack of coal from the Ruhr alone would place the Soviet zone in a disastrous econom-

ic condition that would contrast dramatically with economic success in Western Germany. A telegram from the American ambassador in Moscow provided a similar assessment: "Berlin blockade backfired, airlift was a phenomenal practical and political success and counter-blockade pinched seriously."³³¹ By early 1949, the economy of the Soviet zone in Germany had stagnated and rumors soon spread that the blockade would be lifted.³³²

By then, Stalin had already begun to retreat from his stance on Germany. In mid-December 1948, he counseled German communist leaders to temper their anti-West activities. He lost little in doing so, because their efforts at rabble-rousing and intimidation had accomplished little more than alienate non-communist German leaders, harden Western resolve, and further divide Germany and Berlin. Stalin offered solace, assuring the Germans that Germany could be united at the proper time once the Berlin problem was resolved. Six weeks later, on January 30, 1949, Stalin signaled his intentions to the West when he told Kingsbury Smith, European director of the American International News Service, that the blockade could be lifted in exchange for a Western promise to refrain from establishing a West German state and for negotiation of a Soviet-U.S. nonaggression pact. He made no mention of the currency issue. The Western powers took note of the exchange, but preferred to wait for a more specific proposal. Again, they had the option to wait, thanks to the Berlin Airlift.³³³

The break began in the United Nations in February 1949, when the U.S. delegate, Philip Jessup, asked the Soviet delegate, Jacob Malik, whether Stalin's omission of currency as an issue in the statement to Kingsbury Smith was accidental. Malik responded that he did not know but would ask. A month went by. On March 5, Stalin replaced his two top policy officials, Foreign Minister Vyacheslav Molotov and the Minister of Foreign Trade Anastas Mikoyan, with Andrey Vishinsky and Mikhail A. Menshikov, hinting at a change in the direction of Soviet foreign policy. Ten days later, on the 15th, Malik told Jessup that the omission had been deliberate. Malik also agreed to ask for further information concerning Stalin's views on lifting the blockade and a meeting of the Council of Foreign Ministers. Malik returned on March 21 with further details that suggested an agreement was possible. During subsequent talks, the Soviets proposed that the blockade could end in exchange for a meeting of the Council of Foreign Ministers that would discuss the future of Germany. Initially, Soviet diplomats demanded that the West refrain from creating separate Germany out of the Western zones until after the conference ended; however, they later abandoned even this requirement.³³⁴

The Western powers and the Soviet Union finally reached an agreement on May 4, and the Soviet Union lifted the blockade on May 12, 1949.³³⁵ The announcement of victory to the Secretary General of the United Nations was simple, yet impressive:

We, the Representatives of France, the United Kingdom and the United States of America on the Security Council, have the honor to request that you bring to the attention of the members of the Security

Council the fact that our Governments have concluded an agreement with the Union of Soviet Socialist Republics providing for the lifting of the restrictions which have been imposed on communications, transportation and trade with Berlin.³³⁶

In automatic, face-saving mode, Soviet propaganda brazenly declared that the end of the Berlin blockade was a victory for the Soviet Union. Soviet organs stressed that the will of the German people had proven too strong for the "planners and inciters [of] new war"; that the talks between Jessup and Malik in the U.N. were "a reversal of attitude on [the] part of [the] U.S."; and that the "warmongers had proven uncertain in the face of the growing popular peace movement." It was standard rhetoric that would become commonplace over the next forty years.³³⁷

Despite their defeat, Soviet leaders sought to continue the option of blockading Berlin as a threat to the West. They ensured that the Council of Foreign Ministers failed to reach an agreement on Allied transportation rights, and interference with overland transport continued over the next months. The Soviets began imposing new restrictions almost immediately: all rolling stock on the railroads had to be pulled by Soviet engines, West German vehicles could not travel on the autobahns, and Soviet officials refused to issue permits for barge traffic. On May 20, fifteen thousand West German railroad workers went on strike against the Soviet authorities who controlled the railroads. They demanded that they be paid in West German currency, that fired workers be reinstated, and that their union be recognized. The strike halted rail traffic and led to bloody confrontation between strikers and Soviet-sponsored strike breakers. With the railroads paralyzed, the airlift stepped into the breach once more.³³⁸

Clay, Robertson, and Koenig were determined to continue the Berlin Airlift until all transport systems between the Western zones and Berlin were completely open and a substantial reserve had been built up in Berlin. The military governors agreed that a stockpile of 1,100,000 tons of essential supplies would provide a four- to five-month reserve for the Western sectors, and that this goal would be achieved about-mid August. The airlift would continue at least until then. The military governors further recommended that two U.S. Air Force troop carrier groups and two Royal Air Force heavy transport squadrons remain in Germany and that all three Western powers maintain the facilities in their zones and sectors in such a condition that they could be activated easily in case of an emergency.³³⁹

Dismantling the Airlift

On July 28, 1949, President Truman directed that the Berlin Airlift begin phasing out on August 1, provided that arrangements were made so that an airlift could be reestablished and brought to full capacity within ninety days in case of an emergency. On the following day, the United States and Great Britain issued a press release announcing the phaseout, but affirming that suf-

ficient air forces and installations would remain in Germany to reestablish the airlift on short notice.³⁴⁰

The airlift disappeared almost as rapidly as it had appeared. The phased plan called for the U.S. units operating in the British zone and those from the navy to close operations and return to the United States. The remaining air force units would continue operations on a reduced scale, operating to the last through Rhein-Main. On August 1, the two U.S. Navy squadrons at Rhein-Main and the air force group at Celle terminated operations and prepared to return to the United States. Officers and men from Erding Air Depot supervised the disposition of vehicles and supplies, completing their work at Celle on August 26. Celle officially closed as an airlift base on September 16. The Erding contingent then set up shop at Fassberg, accomplishing their tasks by September 26. The Royal Air Force ceased to fly official airlift missions into Berlin on August 31. On September 1, the Combined Airlift Task Force headquarters dissolved, leaving operational matters in the hands of the Commanding General, 1st Airlift Task Force, and the Air Officer Commanding, No. 46 Group. In the meantime, the 61st Troop Carrier Wing at Rhein-Main supervised the redeployment of all airlift C-54s surplus to the needs of the 61st, which remained in Germany. The number of C-54s equivalent to a heavy troop carrier group remained in Germany in case of emergencies.³⁴¹

On September 30, 1949, a C-54 took off from Rhein-Main with a plane-



"A city saved." The crew of the last flight of Operation Vittles enjoyed a royal ceremony before taking off for Berlin on September 30, 1949. Brig. Gen. Edward H. Alexander, commander, 61st Troop Carrier Wing, shakes hands with instructor pilot Capt. Harry D. Immel, Pittsburgh, Pennsylvania. The rest of the crew, left to right, are 1st Lt. Charles N. Reece, Athens, Texas; 1st Lt. James C. Powell, Fort Worth, Texas; SSgt. Jerry G. Cooksy, Chicago, Illinois; and TSgt. Matthew M. Terenzi, Lynn, Massachusetts. (*U.S. Air Force.*)

load of coal, the most common cargo delivered by the CATF. Piloted by Capt. Harry D. Immel, chief pilot of the 61st Troop Carrier Group, who had made one of the first airlift flights into Berlin fifteen months earlier, this was the last official flight of Operation Vittles. The takeoff ceremony included a flyover by a formation of Douglas C-54 Skymasters, the airplane made famous by the airlift. On that day, William Tunner, the man who did more to perfect the airlift and make it a success than any other, worked alone in his Wiesbaden office.³⁴² The airlift went out of existence at midnight. The history of the 1st Airlift Task Force provided a simple and concise epitaph:

At 0001, October 1, 1949, the Berlin Airlift came to an end—undramatically, without fanfare. As the Command wrote “mission accomplished,” it could look back on the 15 turbulent months of operations with the satisfaction of having steered an unprecedented organization of men and aircraft through the most significant peacetime air transport operation in the history of the United States and British Air Forces.³⁴³

In the end, perhaps, it was most appropriate for the Royal Air Force to have the last word on the Berlin Airlift. Its leaders had committed to the airlift early and, despite flying a smaller number of mismatched and generally less satisfactory aircraft than the U.S. Air Force, RAF airmen had earned a distinguished record during the successful effort to save the city. On September 23, 1949, an RAF C-47 Dakota touched down at Gatow Airfield in the British sector of Berlin. Written on its nose were the words: “Psalm 21, verse 11.”³⁴⁴ For those who knew their Bible, or who took the time to look, the Dakota’s message proclaimed victory:

“For they intended evil against thee: they imagined a mischievous device, which they are not able to perform.”

The Berlin Airlift: A Tally and Legacy

Some Basic Statistics

Statistics on the Berlin Airlift vary among sources. The official USAFE summary of the airlift, *Berlin Airlift: A USAFE Summary*, provides perhaps the most complete and accurate data available. According to that source, the Berlin Airlift delivered a total of 2,325,509.6 tons of cargo to Berlin. Of this amount, Operation Vittles delivered a total of 1,783,572.7 tons, while Operation Plainfare delivered 541,936.9 tons. U.S. deliveries included 1,421,118.8 tons of coal, 296,319.3 tons of food, and 66,134 tons of miscellaneous cargo. British deliveries included 164,910.5 tons of coal, 240.386 tons of food, and 136,640.4 tons of miscellaneous cargo. Among other commodities, the miscellaneous category included 92,282 tons of liquid fuels, most delivered by British civilian aircraft operating under contract. British civilian aircraft also delivered 146,980 tons of the cargo included in the British statistics. In percentage terms, the U.S. Air Force contributed 76.7 percent of the total, the Royal Air Force transported 17 percent, and British civil airlift made up the difference with 6.3 percent.³⁴⁵

In addition to the cargo flown into the city, the CALTF transported 81,730.8 tons of cargo out of Berlin during the airlift. Of this freight, 45,887.7 tons went in U.S. aircraft while the British flew out 35,843.1 tons. Much of the outbound cargo comprised small manufactured items produced by Berlin industry under incredibly difficult conditions, and labelled "*Hergestellt im Blockierten Berlin*" ("Manufactured in Blockaded Berlin"). The airlift also carried a total of 227,655 military and civilian passengers in and out of the beleaguered city.³⁴⁶

The total number of flights made by the airlift varies somewhat from source to source. The USAFE summary concluded that the total was 277,569 flights, 189,963 flown by the U.S. Air Force and 87,606 by the Royal Air Force.³⁴⁷ The total number of flights certified the intensity of the Berlin Airlift and the efficiency with which it operated.

The number of landings that took place under ground control approach attested to the poor weather conditions faced by the airmen of the Berlin Airlift. GCA conducted 33,180 landings under visual flight rules and 42,205 under instrument flight rules conditions. Further, GCA directed an additional 3,960 landings under conditions considered to be "below IFR."³⁴⁸ Again, the Berlin Airlift was a victory by people, not technology. But if there was a technological "hero" on the airlift, it was GCA.

Over all, safety on the Berlin Airlift was generally good. Measured in lives, the airlift was expensive; in the number of accidents, less so. The Royal Air Force lost eighteen airmen killed. Fifteen RAF personnel, one army sergeant, one Royal Australian Air Force pilot, and one South African Air Force flying officer. The British civil airlift lost a further twenty-one men. U.S. losses totaled thirty-one men: twenty-two U.S. Air Force pilots, six U.S. Air Force airmen, one U.S. Navy petty officer, one U.S. Army private, and one civilian. Thirteen German civilians perished: Five Berliners, seven passengers on an RAF Dakota that crashed at Lübeck on January 24, 1949, and one truck driver who drove into the propeller of a Hastings at Schleswigland on January 15. USAFE counted seventy major and fifty-six minor accidents on Operation Vittles, a total of 126. The Royal Air Force listed a total of forty-six accidents requiring salvage to aircraft on Operation Plainfare.³⁴⁹

North Atlantic Treaty Organization

The Berlin blockade proved a disaster for Joseph Stalin and his foreign policies by providing graphic evidence of Soviet ruthlessness and inhumanity. Frightened by Soviet cynicism and brutality, Western Europe took a long close look at the "red menace" and turned to each other and the United States for protection. Soviet policies drove these nations to seek safety within a unified defense system, and the Berlin Crisis of 1948, thus, led directly to the creation of the North Atlantic Treaty Organization in April 1949 and the creation of the Federal Republic of Germany in May 1949.³⁵⁰ According to distinguished historian John Lewis Gaddis, the irony of the Berlin Crisis of 1948 was:

Through his own policies... Stalin brought about many of the things he most feared: an American commitment to defend Western Europe; a revived West German state closely tied to his adversaries; the beginnings of fragmentation within the international communist movement; and a conviction of the part of Western leaders that, because the Soviet Union could not be trusted, negotiations with it on the resolution of outstanding differences could only be approached with the greatest caution and from positions of strength, if they were to take place at all.³⁵¹

Washington's viewpoint also changed during 1948. Originally, most U.S. leaders saw the balance of power in Europe as a political and economic problem, or at least one that could be addressed in those terms. The Berlin blockade, along with the earlier coup in Czechoslovakia and, later, the loss of China and advent of the Soviet atomic bomb, forced upon most an increased awareness of Soviet military power. It became clear that the Marshall Plan would not guarantee the ability of Europe to defend itself from Soviet aggression. The answer to the Soviet threat was a formal military alliance that assured the commitment of the United States to the defense of Europe.³⁵²

American public opinion had already begun to favor some kind of alliance with the European nations that had participated in the Marshall plan when Great Britain, France, and the Benelux nations established the Western European Union (W.E.U.) in early 1948. Shortly afterward, the National Security Council began to consider participation in some kind of alliance with this organization. The Soviet machinations in Germany and its threats to Berlin during the summer of 1948 drove the W.E.U. and United States together. Congress, however, refused to provide funding for an organization its members considered too European for isolationists to accept, and other U.S. leaders believed that the W.E.U. was too small and lacked the depth necessary for the defense of Europe. They sought to bring in Portugal, Iceland, and Denmark. Later, Soviet threats convinced Norway to participate, as well. Backed by bipartisan support and favorable public opinion, Secretary of State Marshall began negotiations with the W.E.U. in mid-1948.³⁵³

In the meantime, the basic outline for the military command structure of the alliance was worked out on the ground in direct response to the Soviet threat in Germany. By early July, Generals Clay, Robertson, and Koenig and their staffs had worked out an emergency plans for withdrawal to and defense of the Rhine River. The Allied governments needed to establish an Allied Force Headquarters and designate a single commander. On July 12, the British element of the Combined Chiefs of Staff proposed that the first stage of implementation of the Brussels Treaty should have a British supreme commander, a French ground commander, a British naval commander, and a French air commander. Ultimately, the supreme command would go to an American, who would have a French ground commander, British naval commander, and American air commander under him.³⁵⁴

On July 16, the British, French, and U.S. occupation commanders agreed that a single commander-in-chief should be appointed to conduct the defense

of the Rhine River barrier and that a planning staff be assembled to select a location and establish a joint land and air headquarters. Clay recommended an American commander with a British air commander as his deputy. The Rhine front would be divided into a northern sector commanded by a British officer and a southern sector commanded by either an American or French commander. The U.S. Army Chief of Staff, General Bradley, authorized General Clay to establish a joint planning staff with the British and French to begin planning for a withdrawal of forces to the Rhine River and the occupation of defensive positions along the river. However, Bradley cautioned him, decisions at his level would have to be tentative, since military talks then taking place in London might supersede lower-level planning. Allied contingents met at Wiesbaden beginning on September 2 and started work on the coordination of the individual allied war plans.³⁵⁵

Ultimately, command of the unified force went to Field Marshal Viscount Montgomery, who held a meeting with the Allied military governors and senior ground and air commanders at Melle, Belgium, on November 8, 1948. Montgomery's plans were to set up his headquarters near Paris with an advanced headquarters near Rheims. Planners began to prepare three plans: a short-term emergency plan based on the work of the joint staff at Wiesbaden, a two-year plan based on the W.E.U.'s planned strength as of January 1951, and a five-year plan based on the forces expected to be available by January 1954. What would ultimately become, with modifications, the military command structure of a Western military alliance was, thus, brought into being by the Berlin Crisis and made possible by the Berlin Airlift.³⁵⁶

In the spring of 1949, the new secretary of state, Dean Acheson, completed negotiations for an Atlantic-based military alliance. On April 4, the Western allies drove another nail into Stalin's hopes for the future when twelve nations—Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States—signed the North Atlantic Treaty. The North Atlantic Treaty declared that an attack on one nation would be regarded as an attack on all of them, and the U.S. Senate ratified the treaty on July 21, 1949, breaking for good the American tradition of isolation. Once the North Atlantic Treaty Organization was a fact, Stalin could do little to prevent the rise of American stature and strength in Western Europe. He could only increase his hegemony over Eastern Europe and retreat from the position where he had played high stakes and lost—Berlin.³⁵⁷

NATO represented an unprecedented, long-term commitment by the United States to remain in Europe, and its impact was far-reaching. The existence of NATO and the presence of the United States ensured the longest period of peace in recent European history. Extended into the eastern Mediterranean, with the addition of Greece and Turkey, and eastward in Europe, with the addition of West Germany, the alliance ultimately formed a solid barrier to Soviet and communist aspirations west of the Iron Curtain. Forty years later, when the Soviet empire fragmented and the Soviet Union col-

lapsed, NATO still stood as a source of strength, unity, and stability in Europe.

Federal Republic of Germany

All Soviet haggling and efforts to pressure the Allies also failed to prevent the establishment of West Germany. The role of the airlift in the process was subtle, but significant. For the Western powers, the German enemy now became an ally in the confrontation with a Soviet Union bent on subjecting Germany to a hostile and pernicious form of government. Lucius Clay saw the Berlin airlift as a collaborative effort between the Western Allies and the German people, and later wrote that, in their steadfastness, the Germans, and particularly the Berliners, had redeemed much in their past:

The determination of the people did not falter. They were proud to carry their burden as the price of their freedom, and though the price was high it had brought them something in return that had become dear. They had earned their right to freedom; they had atoned for their failure to repudiate Hitler when such repudiation on their part might have stopped his rise to power.³⁵⁸



"The determination of the people did not falter." Berliners crowd around to view the ceremonies commemorating the end of the Berlin blockade, May 12, 1949. (*U.S. Air Force.*)

For Germans, the dedication of American and British resources and willingness to sacrifice lives succoring Berlin represented an unexpected commitment by enemies and conquerors. The airlift, thus, made a massive contribution to pro-Western thought among the German population. "In the end," scholar Vojtech Mastny wrote recently, "the certitude of their commitment to Western democracy... was what made the Berlin airlift such a memorable success."³⁵⁹

As already described, the need for economic growth and stability in Europe and the collapse of efforts to operate the Eastern and Western zones of occupation as a single economic unit caused the United States and Great Britain to merge their zones into a single economic and administrative unit in February 1948. The introduction of a new currency in June led to increased separation from the Eastern zone and served as the pretext for the blockade of Berlin. In September, a parliamentary council chaired by Konrad Adenauer, a devout Catholic and staunch democrat who had spent World War II in a concentration camp, began meeting in Bonn.³⁶⁰

On Monday, May 12, 1949, the day the Berlin blockade ended and trucks and trains began carrying food and coal to Berlin once again, General Clay flew to Frankfurt to meet with his colleagues from Great Britain and France. There they approved the Basic Law, which led to the establishment of a West German state. On May 23, 1949, the day that the Council of Foreign Ministers that had been demanded by the Soviets convened, the West German constitution was adopted, effective at midnight. In rapid sequence and with Western blessings, German leaders proclaimed the Federal Republic of Germany and in August elected a free parliament. In September 1949, the federal parliament met for the first time.³⁶¹

Thereafter, under the leadership of Chancellor Adenauer and his successors the Federal Republic of Germany emerged as a strong, stable democratic keystone in the belt of European security. The status of Berlin and its relationship with West Germany remained in limbo for some time. On October 21, 1949, however, the Western powers decided that Berlin would be treated as part of the Federal Republic. The Soviets, in response, created their own Peoples Republic of Germany out of the Eastern zone. Berlin, a dagger pointed at the heart of communist Eastern Europe, remained a bone of contention throughout the next forty years. When the East German government collapsed and the barbed wire fences and concrete walls came down, the Federal Republic quickly united with the former East Germany, and thus emerged from the Cold War as a powerful democratic nation.

The Promise of Strategic Air Logistics

The airlift demonstrated the need to throw off the "milk-run" mentality of the airlines and earlier military air transport operations. Modern airlift required professional organization and exceptional precision in all aspects of transportation, communications, maintenance, and supply. Above all, the airlift validated the need for large transports designed specifically for use as military

transports. No longer could the air force rely on modified civilian airliners for its strategic and tactical airlift capability. The drive now was to move the maximum amount of goods in as few missions as possible.³⁶²

It is clear that from the beginning U.S. Air Force leaders who believed in the importance of air logistics viewed the Berlin Airlift as an opportunity to spread the gospel of global air transport. The leaders of the airlift believed that "Perhaps its most immediate value was to bring to those responsible for the public defense a quickened awareness of the need for a logistical air fleet."³⁶³ The series of letters between Tunner and the MATS commander, Lawrence Kuter, in August and September 1948 give a good picture of their hopes for the future. Essentially, they concentrated on two goals. First, they wanted to unify strategic air transport under one command, the Military Air Transport Service, and eliminate the troop carrier wings. Second, they, and especially Tunner, pushed the development of huge transports designed specifically for military use.

Propaganda played a major role in achieving their goals. On August 31, Kuter took part in a conference of MATS and USAFE personnel that convinced him, he wrote Tunner, "that we should make every effort to have the VITTLES story told by qualified aviation writers who can appreciate the implications of such strategic air transport and who can explain both the techniques of the effort and its essential place in any plan for national defense."³⁶⁴ To that end, Kuter arranged for several aviation writers to visit Germany and survey the airlift. Tunner reciprocated on the potential value of the airlift. "As you know," he assured Kuter on September 3, "no one is more aware than I of the terrific public relations potential in this operation—that this is the greatest opportunity we have ever had, or probably ever will have, to tell the air transport story and make certain that people will pay attention to us." And thanks to the wide variety of air force and congressional leaders visiting Germany, he could get his message out: "You may be sure," Tunner told Kuter, "that I am taking every opportunity to point out the significance of the relationship between a project of this kind and military air transport, of the kinds and types of aircraft we should have, and what our organization should look like."³⁶⁵

The division of air transport between MATS and the troop carrier wings assigned to other commands distressed both generals. This concern partly explained Kuter's concerns over the source of the contingent of C-54s sent to Germany in late August 1948. He found that most echelons of the Air Force wanted to take all fifty from MATS. His position, Kuter explained, was that no more C-54s should be taken from his command while any remained with the troop carrier wings. Possession, he recognized, was nine-tenths of air force regulations. "It seems obvious," Kuter wrote Tunner, "that MATS will wind up in a very strong position if you have in your command all troop carrier C-54s when VITTLES terminates." The other side of the coin was unpalatable: "On the other hand, as a global air transport agency, MATS will have in fact been destroyed if we wind up with our resources in VITTLES and the troop carriers doing the global job."³⁶⁶ Kuter continued making every effort to ensure that augmentation of the Berlin Airlift came from Troop Carrier Command

resources, thus maintaining MATS's remaining long-line overseas service and putting troop carrier out of that business. Additionally, he reported, his allies on the Air Staff had dusted off and planned to update an earlier proposal to consolidate Troop Carrier Command and Air Transport Command that had been vetoed earlier.³⁶⁷

Tunner reported to Kuter that he had observed MATS transport personnel and personnel from the troop carrier wings closely and had "come to the conclusion that it was now time to put out some long-range propaganda, looking toward the consolidation of the troop carrier units with MATS."³⁶⁸ He found the MATS squadrons uniformly efficient, while the quality of the troop carrier units varied a great deal depending upon the ability and drive of their commanders. Additionally, he pointed out the inefficiency in having two separate transport operations in the Air Force, a luxury the service could no longer afford. Tunner was not trying to take away the short-range, twin-engine business from other commands, but he believed that four-engine transport was the responsibility of MATS.³⁶⁹

Ultimately, the Berlin Airlift forced air transport units and troop carrier groups to work together, and one lesson was the lack of standardization between the two types of units. Though both organizations had deficiencies, the troop carrier units especially lacked the traffic administrators and technicians necessary for sustained airlift operations. Further, an official USAFE history of the airlift concluded that these individuals had to be "selected and trained rather than merely assigned and utilized."³⁷⁰ A modern airlift could not be run by amateurs and part-timers. Strategic air transport required dedicated, trained professionals, and these would best be developed and promoted under a central command like MATS. Organizational change came slowly, however. Ultimately, MATS gained control of troop carrier assets, aircraft, and aircrews in 1957 and became the single manager for military air transport in 1962.³⁷¹

In the push for a large, strategic transport designed especially for military use, the tests of the Douglas C-74 provided an opportunity and a gamble. Tunner, as described above, had pried one loose from MATS for a few weeks early in the airlift. Kuter was extremely concerned about the airplane's performance. If the aircraft failed to meet expectations, it could compromise efforts to purchase big military transports. "The adverse consequences of a little bad luck with this particular airplane," he wrote Tunner in August 1948, "are obviously broad in nature and could be most serious."³⁷² He cautioned Tunner not to let the airplane get "bogged down" on an airfield with an inadequate runway and expressed special concern about the need to carry a spare engine in case of an emergency in Berlin, which limited its cargo capacity and thus compromised its efficiency. Kuter went so far as to talk Col. Albert Boyd, Chief of the Flight Test Division in Dayton, Ohio, into compiling data on the airplane's three-engine takeoff performance. This data convinced the crew that the C-74 could operate safely without lugging the spare engine around.³⁷³

General Kuter need not have worried. The C-74 proved its effectiveness, especially on September 18 when it flew six round-trips into Berlin and deliv-

ered 114.4 tons of cargo. And when Senator Chan Gurney, Chairman of the Senate Armed Services Committee, visited Berlin, Tunner was able to present statistical data showing the tremendous superiority of the C-74 over the C-54 and demonstrating the cost effectiveness of operating an airlift with the larger airplane.³⁷⁴

In addition to the C-74, the airlift served as a test for another giant aircraft. On May 1, 1949, SAC's Boeing YC-97A "Stratofreighter" arrived in Germany. The transport version of the B-29, the YC-97A first flew in January 1948. Along with the airplane came one SAC aircrew, seven maintenance personnel, and over ten tons of specialized parts. Later, additional maintenance personnel and enough people to make up three full crews arrived. Service tests of the YC-97A proved somewhat anticlimactic. Initial assessment of the aircraft showed several problems, including the length of the fuselage, which caused both fatigue and confusion, and the difference in height between trucks and its the deck, which necessitated borrowing a conveyor belt from a German company. The YC-97A aircraft flew 23 missions, delivering 444.8 tons of cargo to Berlin. On May 24, however, engine problems forced it to make an emergency landing during which it blew four tires and caused sufficient damage to close Gatow's runway for over seven hours. The YC-97A remained at the British base until three new engines arrived on June 17. The aircraft then returned to the United States.³⁷⁵

As the airlift continued, Tunner and his staff increasingly recognized the need for a military transport capable of carrying a twenty-five-ton cargo. Such an airplane would do the work of three C-54s and would reduce most of the problems of scheduling, maintenance and report, the number of crews and maintenance personnel with all of the attendant housing, feeding, and administrative problems, by a third. It promised huge economies of scale. Sixty-eight C-74s could do the work of 178 C-54s or 899 C-47s. It would only have to fly 5,400 trips per month to the C-54's 13,800 or the C-47's 39,706. The C-74 would require 180 aircrews to do the same amount of flying as 465 for a C-54 operation or 1,765 on a C-47 operation. Only 2,700 maintenance personnel would required compared to 4,674 for the C-54 or 10,588 for the C-47. All would be accomplished using only 6,804,000 gallons of gasoline compared to 8,577,600 for the C-54s and 14,294,00 for the C-47s. At the height of the airlift, the CALTF was flying out of nine fields and delivering to three. With a fleet of Douglas C-74s, the airlift could have delivered 8,000 tons of cargo daily operating out of two bases and delivering to only one. With additional bases and two in Berlin, Tunner believed that he could deliver over 24,000 tons of cargo. And all of this could be done at a substantially reduced cost.³⁷⁶

The Douglas C-124 "Globemaster II," the vastly improved successor of the C-74, was already on its way, and it would meet Tunner's criteria. In August, Kuter met with senior Department of the Air Force leaders who expressed "sympathetic interest" in the proposal by MATS to replace C-54s with a combination of C-97s and C-124s beginning in FY 1949, and the Navy was expected to make a similar proposal for the replacement of their R5Ds.

And, as detailed above, CALTF's long-range plans—for prolonging the airlift beyond 1950, if that proved necessary—were predicated on the advent of the C-97 and C-124.³⁷⁷

Tunner worked on his superiors shamelessly. When he learned that Secretary Symington was coming to visit the airlift in December, Tunner seized the opportunity to brief his vision to the receptive Air Force Secretary. Thoroughly convinced of the importance of the big transport to the Air Force mission, Symington returned to Washington and pushed development of the C-124. Tunner gave the same treatment to Secretary of Defense Forrestal in December 1948, and, following his visit to Berlin, Forrestal asked Air Force Chief of Staff General Vandenberg for information on the development of strategic transport aircraft. Vandenberg reported that the C-124, a modified version of the C-74 capable of a 73,000 pound payload, was waiting in the wings, while the C-97 with its 55,000-pound payload was already on the ramp.³⁷⁸

The big transports that Tunner sought so desperately and that the Berlin Airlift justified were thus on their way. The C-97 would serve as a satisfactory strategic transport, but achieve its greatest fame and value in its air-to-air refueling role as an aerial tanker. The C-124, nicknamed "Old Shaky," would serve as the backbone of strategic air transport for the U.S. Air Force for the next decade. And "Old Shaky" and its like were just the beginning. The Lockheed C-130 Hercules, Lockheed C-141 Starlifter, Lockheed C-5 Galaxy, and McDonnell Douglas C-17 Globemaster III of today's Air Force are the direct descendants of the C-47s and C-54s of the Berlin Airlift.

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