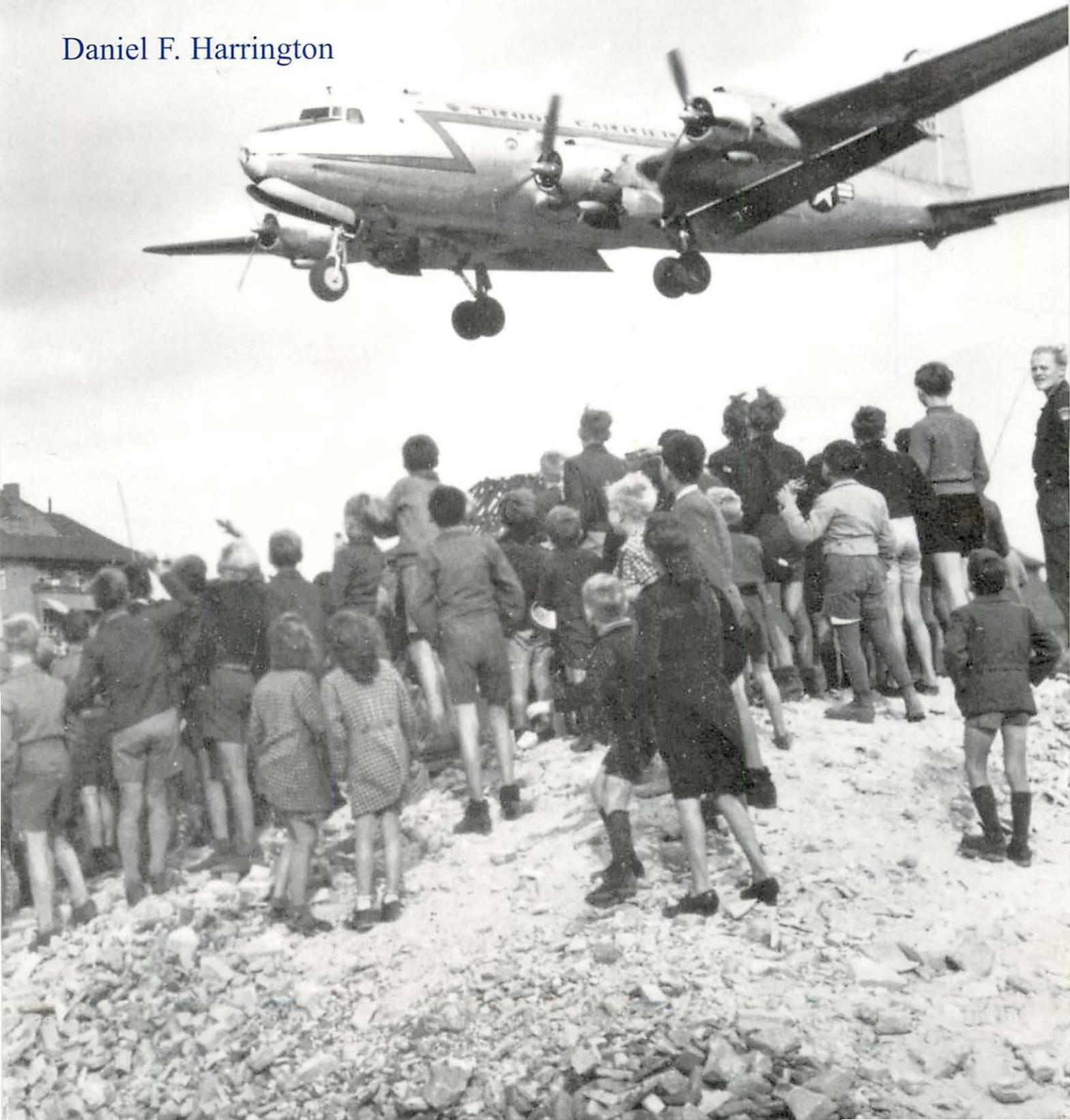


“THE AIR FORCE CAN DELIVER ANYTHING”

A History of the Berlin Airlift

Daniel F. Harrington



FOREWORD

The Berlin Airlift continues to inspire young and old as one of the greatest events in aviation history, but it was more than just an impressive operational feat. It was an unmistakable demonstration of the resolve of the free nations of the West and the newly independent United States Air Force to ensure freedom's future for the people of Berlin and all of us. That the first wielding of the military instrument in the post-WWII period was a humanitarian effort of historical proportions affirmed the moral authority of men and women of good will. On the sixtieth anniversary of the Airlift, United States Air Forces in Europe (USAFE) rededicates this superb study as a tribute to the men and women whose efforts kept a city, a country and a continent free.



ROGER A. BRADY
General, USAF
Commander

ACKNOWLEDGEMENTS

Although only one name appears on the title page, many people made this study possible. I alone bear responsibility for its shortcomings; their efforts account for its merits. While I'll thank most of them in the conventional alphabetical order, I want to pay tribute to a special few first. They are the official historians who collected the documents, interviewed participants, and wrote the initial studies on which I've relied so heavily. My debts to them are immense, as a casual scanning of the footnotes will show, so it's fitting to list their names first: Ruth Boehner, Elizabeth S. Lay, Cecil L. Reynolds, William F. Sprague, Cornelius D. Sullivan, and Herbert Whiting.

My debts to my contemporaries are equally great, especially to the other members of the USAFE history office. All of them gave unstintingly of their time to make this a better product. Bob Beggs and Ellery Wallwork read the drafts with the critical eyes of the top-notch professional historians they are. They made innumerable valuable suggestions and pinpointed many flaws. I'm also indebted to the USAFE Command Historian, Dr. Thomas S. Snyder, for giving me the opportunity to work on this study, for his critiques, and for all the support and encouragement he's given me. I especially appreciate the care he devoted to preparing the index. Our deputy command historian, Lois Walker, did an enormous amount of truly outstanding work turning a pile of paper into a real history. She designed the covers, scanned the illustrations and integrated them into the text, and put up with a stream of last-minute changes. Lois also caught errors and had many good ideas that improved the text, the appendices, and the other supporting material. She handled all aspects of getting the study published, from obtaining the funds to securing foreign disclosure review and working with graphics and the printer. I deeply appreciate her hard work, talent, patience, and professionalism.

Many people outside the USAFE history office made valuable contributions. Sebastian Cox and his staff at the RAF Air Historical Branch were gracious hosts when I spent two weeks in London working through RAF records on Plainfare, and they have clarified many points for me since. Over the years George Cully has sent me a steady stream of citations and copies of Berlin material he came across in his own wide-ranging work in aviation history, including treasured copies of the booklet Dudley Barker wrote for the British Air Ministry in 1949 and the April 1949 special issue of *Aviation Operations*. Mike Dugre has responded patiently to a barrage of requests for "just one more" trip down the street to the Air Force Historical Research Agency to check one item or another. Ronald M. A. Hirst of Wiesbaden and Jim

Howard of the Agency staff helped immensely by providing accurate information on casualties. Betty Kennedy of the Air Mobility Command history office provided information on organizational issues and was a constant source of good ideas, advice, and suggestions. One of the greatest pleasures of working on this project was to share information, research leads, and ideas with Roger Miller of the Air Force Historical Support Office. Roger and I were graduate students together, and he's been working on a study of the airlift at the same time I've been writing this one. He helped me tremendously, sending me material I could not find in Germany, raising questions I had not thought of, and making me think more clearly about many issues. I'm sure I gained more from him than he gained from me. Last but not least, Al Moyers of the history office at the Air Force Communications Agency provided some of the photographs used here.

There are others who deserve special thanks. I'm deeply grateful to John H. "Jake" Schuffert for permission to reprint a few of his classic cartoons from the *Task Force Times* and bring some life to these pages. I owe a large debt of gratitude to Lt Gen William J. Begert and the USAFE Command Section for their support in publishing this study. And last, those who are first in my thoughts and in my heart. I'm immensely grateful to my family, Sylvia, Beth, and Laura, for their love, support, and encouragement.

D.F.H.
Ramstein, Germany
March 1998

I have made minimal changes for this new edition, correcting errors in the narrative and appendices. I have also updated the reading list.

D.F.H.
Langley AFB, VA
January 2008

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GLOSSARY

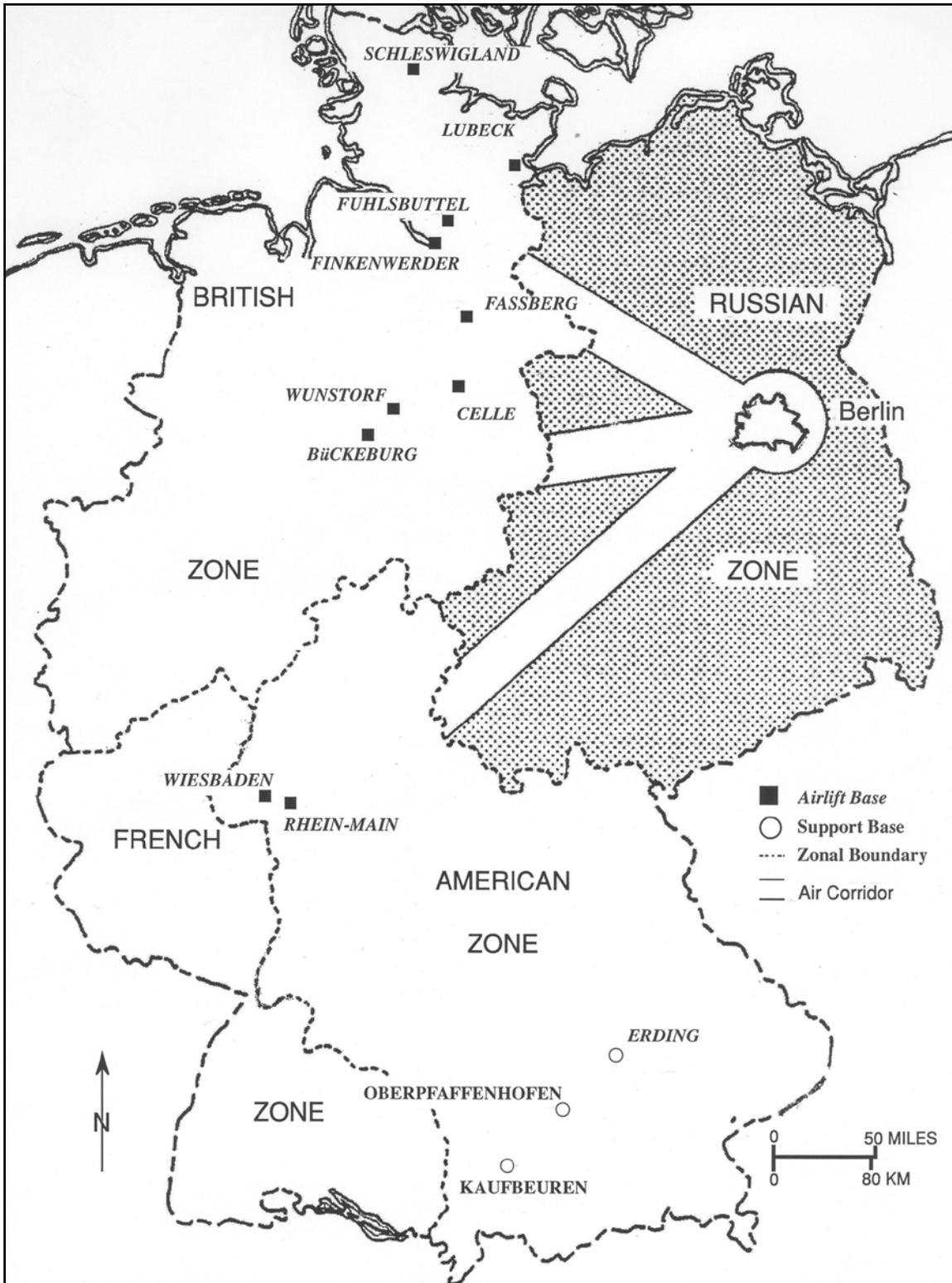
AACS	Airways and Air Communications Service
AACSW	Airways and Air Communications Service Wing
AAR	After-Action Report
AFHRA	Air Force Historical Research Agency
AMC	Air Mobility Command
App	Appendix
BAFO	British Air Forces of Occupation
CALTF	Combined Airlift Task Force
CUOH	Columbia University Oral History Program
EAC	European Advisory Commission
EUCOM	European Command
FO	Foreign Office
<i>FRUS</i>	<i>Foreign Relations of the United States</i>
GCA	Ground Controlled Approach
Hist	History
HO	History Office
HQ	Headquarters
JCS	Joint Chiefs of Staff
LOCMD	Library of Congress Manuscript Division
MATS	Military Air Transport Service
MFR	Memo for Record
Mins	Minutes
MOD	(United Kingdom) Ministry of Defence
Mtg	Meeting
NA	National Archives
NAC	National Archives of Canada
NME	National Military Establishment
PA	Public Affairs
PLUME	Pipeline under Mother Earth
PLUTO	Pipeline under the Ocean
PRO	Public Record Office
PSF	President's Secretary's Files
PSP	Pierced steel plank
RAF	Royal Air Force
RG	Record Group
Rpt	Report
<i>TFT</i>	<i>Task Force Times</i>
TI&E	Troop Information and Education
US	United States
USAF	United States Air Force
USAFE	United States Air Forces in Europe

INTRODUCTION

The Berlin Blockade was a defining moment in the Cold War in Europe. Moscow expanded its control throughout Eastern Europe after 1945, creating satellite regimes from Poland to Bulgaria and Yugoslavia. After Communists took power in Czechoslovakia in February 1948, the vortex of the East-West conflict shifted to Germany, where the Russians shared control with three other occupying powers—France, the United Kingdom, and the United States (US). The Soviets cut off road, rail, and barge traffic between Berlin and the Western occupation zones of Germany on 24 June 1948. The US and its allies apparently faced an inevitable choice between challenging the blockade on the ground, which might trigger a third world war, or withdrawing from the city, which would destroy American credibility in Europe, undermine the Marshall Plan, and open the way to Soviet political advances in Germany and the rest of Europe.

The Berlin Airlift enabled the West to avoid this stark choice. Begun as an improvised stopgap to buy time, it evolved into an efficient organization that kept 2.2 million Berliners alive for nearly a year. The US nicknamed its part of the airlift “Operation Vittles,” while the British called theirs “Operation Plainfare.” Despite the different nicknames, the airlift succeeded because of teamwork. The British and American armies delivered food, coal, and dozens of other daily necessities to nine airfields in western Germany. From there, aircrews from the US Air Force, US Navy, Royal Air Force, and British civilian contract carriers flew cargoes into Berlin. The French provided land for a vitally important third airfield in the blockaded city. German and refugee laborers loaded and unloaded cargo. A network of support organizations that spanned two continents kept the planes in the air.

Moscow may have counted on the Berliners to lose heart or winter weather to ground the airlift. Neither happened. In the famous “Easter Parade” of 16 April 1949, a plane landed in Berlin every 62 seconds. On 12 May 1949 the Russians gave up and reopened surface routes to the city. The airlift continued until 30 September, stockpiling supplies against a possible new blockade. By then the allies had flown about 2,326,500 tons of supplies to Berlin in just over 278,100 flights. The airlift inflicted an enormous defeat on Joseph Stalin. Not only had the Soviet leader failed to force the West out of Berlin, his pressure tactics had backfired. US credibility in Europe soared. The Western powers went ahead with plans to create the Federal Republic of Germany, which became a strong barrier against Soviet expansion. The Americans did not retreat from Europe, as Stalin hoped. Instead, the US and its allies established the North Atlantic Treaty Organization in April 1949, while the blockade was still underway. For the next forty years, Berlin would be a potent symbol of the US commitment to Europe—and an equally potent symbol of the conflict between freedom and tyranny at the heart of the Cold War.



Germany during the Berlin Blockade

CHAPTER 1

ORIGINS OF THE BLOCKADE

The causes of the Berlin blockade can be grouped under two general headings: motive and opportunity. Taking them in reverse order, the Soviets' opportunity was created during the Second World War, ironically enough in the form of an agreement with the powers Moscow would face during the crisis. In November 1944, a European Advisory Commission (EAC) composed of representatives of Britain, France, the Soviet Union and the United States agreed on a plan to divide Germany into four occupation zones. (The allies later divided Berlin, Germany's capital and most important city, into four sectors.)¹

Even though Berlin was surrounded by the Soviet zone, the agreement did not spell out Western access rights to the city. There were several reasons for this omission. Everyone thought the zones would last a few months at best, until a peace conference drew up permanent arrangements for postwar Germany. In the meantime, the zonal boundaries were only to delineate where the various armies would be garrisoned. They were to have no political purpose or significance; victors and vanquished alike were to move freely across them. A January 1944 British proposal on which the EAC plan was based envisioned each country's zone would have an international staff and token forces from the other allies. With Western forces moving freely throughout the Soviet zone,

¹For the EAC and its plans for Germany, see Tony Sharp, *The Wartime Alliance and the Zonal Division of Germany* (London, 1975); Daniel J. Nelson, *Wartime Origins of the Berlin Dilemma* (University, Ala., 1978); and Avi Shlaim, *The United States and the Berlin Blockade, 1948-1949: A Study in Crisis Decision-Making* (Berkeley and Los Angeles, 1983), 14-39. These books have largely superseded the pioneering studies of the access problem, Philip E. Mosely, "The Occupation of Germany: New Light on How the Zones Were Drawn," *Foreign Affairs*, 28:4 (Jul 1950): 580-604; and William M. Franklin, "Zonal Boundaries and Access to Berlin," *World Politics*, 16:1 (Oct 1963): 1-31. For the texts of the EAC protocols, see U.S. Department of State, *Documents on Germany, 1944-1985* (Washington, D.C., n.d.), 1-9. The division of Berlin into sectors was at Soviet insistence. This worked against them during the blockade. Had they agreed to Western plans to rule the entire city in common, they could have interfered with the arrival and distribution of supplies. For the Soviet sector proposal, see U.S. Department of State, *Foreign Relations of the United States, 1944*, vol. 1 (Washington, D.C., 1966), 237-39 (volumes in this series hereafter cited as *FRUS*, year, volume).

special provisions for Western transit to Berlin seemed superfluous.² Proposals that would have assured access were sidetracked, postponed, ignored, or not pushed vigorously.³ Lastly, there was a pervasive assumption about the future of East-West cooperation, perhaps best summed up by the chief of the US Army's Civil Affairs Division in December 1944. Despite growing differences over Poland and Eastern Europe, Major General John H. Hilldring expected Moscow would cooperate in Germany. Submitting the EAC protocol to the Assistant Secretary of War for approval, he pointed out that it lacked access guarantees but added, "I assume we may take it for granted that such [transit] facilities will be afforded."⁴

Hilldring was not alone in assuming that wartime cooperation with the Soviet Union would continue; it was the official policy of the British and American governments and the only basis on which the EAC could make plans for postwar Germany. Thus the main reason why neither the United States nor the United Kingdom did anything to protect their access rights to Berlin was neither believed a threat to those rights from the Soviet Union was likely. This was not a naive faith in Soviet good will, or confidence that the president or prime minister could "handle Uncle Joe." Given the presence of Soviet armies in Germany at war's end, cooperation was not only desirable, it was unavoidable. Working with the Russians would not be easy, but failure to

²For these assumptions, see Sharp, *Wartime Alliance*, 34-39, 73-76; and Nelson, *Wartime Origins*, 34, 122-23, 142.

³For example, British and US officials in 1943 considered spreading the forces of all occupying powers throughout Germany but settled instead on creating zones, one for each occupying power. See Annex to WP(43)217 and WP(43)242, CAB 66/37, Public Record Office (PRO), Kew, United Kingdom; WP(43)421, CAB 66/41, PRO; Mosely, "Occupation of Germany," 586-87; and *FRUS, 1944*, 1: 147-49. US diplomat Philip Mosely early in 1944 proposed creating a corridor to Berlin, only to have the Army veto it. Mosely, "Occupation of Germany," 587; Cornelius Ryan, *The Last Battle* (New York, 1966), 162; Sharp, *Wartime Alliance*, 51-52; and Nelson, *Wartime Origins*, 34-35, 120-21, 125-26. President Franklin D. Roosevelt in November 1943 wanted the US zone to reach Berlin but dropped the idea in April 1944. Sharp, *Wartime Alliance*, 42-66; Earl F. Ziemke, *The U.S. Army in the Occupation of Germany, 1944-1946* (Washington, D.C., 1975), 115-26; and George F. Kennan, *Memoirs, 1925-1950* (Boston and Toronto, 1967), 164-74. Ambassador John G. Winant (the US EAC negotiator) in May 1944 urged access agreements but the Army opposed; Sharp, *Wartime Alliance*, 66-67, and Nelson, *Wartime Origins*, 121. Robert Murphy, another US diplomat, claims he and others pointed out the need for access accords in the autumn of 1944 but Winant rejected their advice; Robert D. Murphy, *Diplomat among Warriors* (Garden City, N.Y., 1964), 231-32. The records of the Working Security Committee, a Washington inter-agency panel that coordinated instructions to Winant, contain another example historians have overlooked. In revising Winant's instructions after President Roosevelt dropped his plan for a large US zone, the committee included a call for free access, only to delete it in later drafts. Who proposed the inclusion and why the committee omitted it are not clear from its minutes and papers. WS-134, 134a, and 134b, box 149, and WSC Mins 37, 13 Apr 44, box 148, Harley G. Notter files, Record Group (RG) 59, National Archives (NA), Washington, D.C.

⁴Hilldring to McCloy, 9 Dec 44, CAD 014 Germany (7-10-42), section 10, RG 165, NA. For a similar view by a senior Army Air Forces leader, see Kuter to Burt, 31 Mar 45, file 519.9744-21, Air Force Historical Research Agency (AFHRA), Maxwell AFB, Alabama.

develop cooperative arrangements meant renewed great-power rivalry, German military revival, and a postwar world that would make a mockery of wartime hopes and sacrifices. "It's got to work," General Lucius D. Clay insisted in May 1945 when questioned about the prospects for four-power cooperation. "If the four of us cannot get together now in running Germany," continued the man who, as US Military Governor and Commander in Chief of European Command, would lead American forces in Germany during the blockade, "how are we going to get together in an international organization to secure the peace of the world?"⁵

While the Soviets never confirmed the Western powers' right of access to Berlin, they did not deny it, either. Their negotiator at the EAC thought access was a minor detail that military officials would assuredly work out later, but when the Joint Chiefs of Staff formally raised the issue in February 1945, the Soviet general staff did not answer.⁶ Similarly, when President Harry S. Truman proposed free access for Allied forces in June 1945, Stalin's reply passed over the point in silence.⁷ Two weeks later, the Soviet commander in Germany promised the British and Americans the use of a major highway and rail line into the city and an air link.⁸ Soviet officials in September 1945 agreed 16 trains a day could run between the Western zones and Berlin to meet the needs of the Western sectors as well as the Western garrisons. (The Russians insisted that each occupying power feed and support its sector of Berlin, forcing the Western powers to ship food, coal, and other supplies into the city from their zones. Exasperating as this was, it created a supply and transportation network supporting the Western sectors. Once the blockade began, this network could be adapted to include an airlift.) Soviet officers also agreed to rules regulating interzonal barge and road traffic in 1946. The agreements worked. As Clay recalled, there was "no trouble whatever" over access until late 1947.⁹

One other accord would prove vitally important. On 30 November 1945, the Allied Control Council (the four-power agency responsible for governing Germany) approved a paper dealing with air safety near Berlin. The agreement created a "Berlin

⁵Quoted in Jean Edward Smith, *Lucius D. Clay: An American Life* (New York, 1990), 253. One should note here that the European Command Clay led from 1947 to 1949 was the lineal predecessor of today's US Army Europe. The current US European Command dates from 1952.

⁶For the Soviet negotiator's assurance, see Strang to Eden, 7 Nov 44, PREM 3/171/1, PRO. According to the U.S. record, he went further. He was not merely discussing procedures (who would decide what) but promised arrangements would be made "providing United States and United Kingdom forces and control personnel full access to the Berlin zone across Soviet-occupied territory." *FRUS, 1945*, 1: 385. For the JCS proposal, see Sharp, *Wartime Alliance*, 109-10; and Nelson, *Wartime Origins*, 126-29. Attempting to follow up, Ambassador Winant's military advisers suggested raising the issue in the EAC, but Philip Mosely blocked further action. Memo, Planning Committee, Joint US Advisers, 21 Mar 45, file 519.9744-24, AFHRA; Minutes of 61st Meeting of Joint US Advisers, 23 Mar 45, folder 3, box 4, Policy Records Retained by Military Adviser to US EAC Delegate, OMGUS Records, RG 260, NA.

⁷*FRUS, 1945*, 3: 135-37.

⁸*Ibid.*, 3: 358-61.

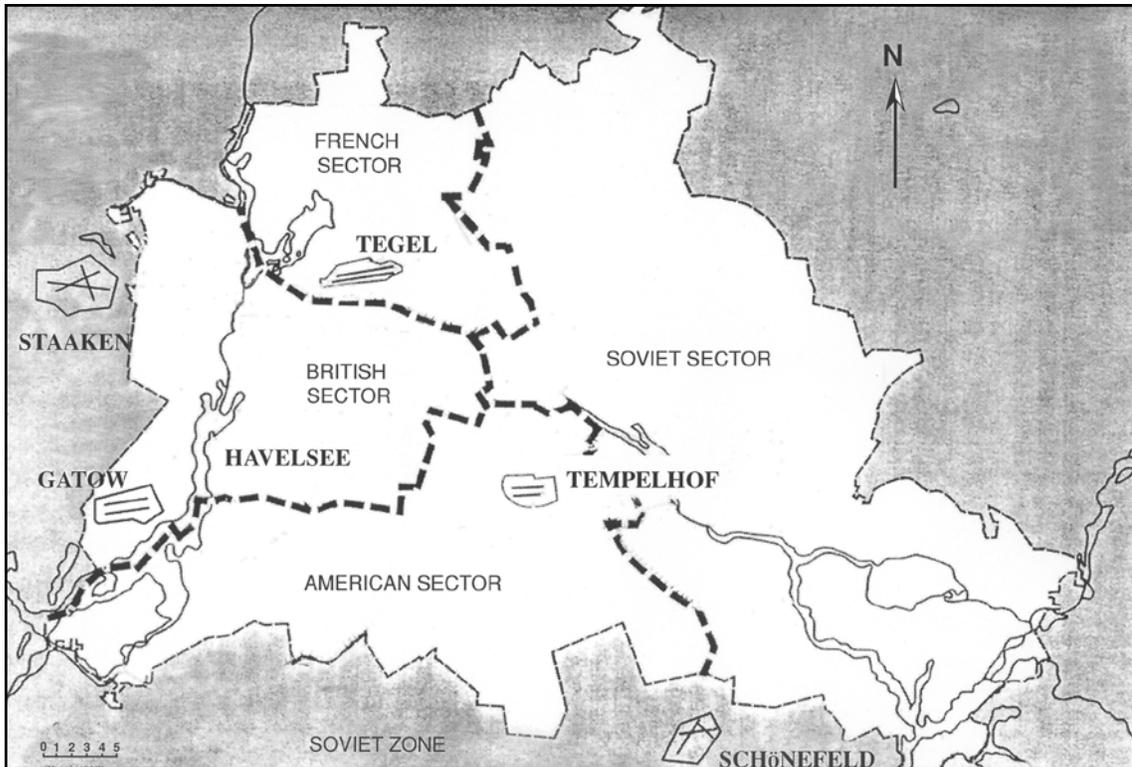
⁹U.S. Department of State, *Documents on Germany*, 65-68, 83-84, 87; Clay quoted in Smith, *Lucius D. Clay*, 275.

Control Zone” including all airspace within 20 miles of the city’s center and extending up to 10,000 feet, as well as a four-power Berlin Air Safety Center to control flights in the zone. The accord also established three air corridors linking Berlin and the western occupation zones of Germany. The British, French, and Americans could use these corridors without advance notice to the Soviets.¹⁰

Two misconceptions about access were widespread during the Cold War. The first was to assume everything would have been different if Western armies had captured Berlin in May 1945. The second was to exaggerate the uniqueness and importance of the November 1945 air corridor agreement. Unless the West was ready in 1945 to repudiate the EAC agreements and keep what it captured—something it was not ready to do—the Western armies would have withdrawn from Berlin, just as they withdrew from the parts of the Soviet zone they did overrun. Then the Soviets would have occupied the area around the city. Once that happened, the Soviets were in a position to harass their former allies, and written agreements provided no greater protection than oral ones. Written agreements did exist regarding surface access, and Moscow ignored them in 1948. The air corridors saved Berlin not because they were specified in a written agreement but because they put the onus for initiating force on the Soviets. If the Soviets barred surface routes to Berlin, the West could reopen them only by force, risking a third world war. The situation in the air was the exact opposite. The Western powers could use the corridors without firing a shot or risking escalation. To stop them, the Soviets would have to use force, and that ran the risk of starting a war with the only country that had atomic weapons.

The second cause of the Berlin crisis was the deterioration of East-West relations after 1945. If the EAC agreement gave the Soviets the opportunity to blockade Berlin, the Cold War provided the motive. The emergence of the Cold War was a complex process that cannot be explored fully here. Many of the early disagreements had nothing to do with Germany or Berlin, where relations were relatively good. As mutual suspicions grew because of conflicts over Eastern Europe and the Middle East, they cast their shadows over the German occupation. Each side began to worry the other wanted to draw all of Germany into its sphere, and the chances of continued cooperation in Germany, never good, began to wane. In the West, opinion began to shift late in 1946 toward German economic revival. Occupation officials like General Clay and his British counterpart, General Sir Brian H. Robertson, wanted Germany to be self-sufficient in order to lower the cost to taxpayers back home. Others argued that Europe could not revive as long as Germany remained stagnant, an argument that took on added weight in June 1947, when European recovery became a key US goal with the announcement of the Marshall Plan.

¹⁰*FRUS, 1945*, 3: 1576-1606. USAFE in August had urged the US members of the Allied Control Council to negotiate such arrangements. “HQ USAFE: A Short History with Selected Documents, 16 Aug 1945 - 30 Nov 45,” 12.



Occupied Berlin

Stalin viewed Western plans with deep suspicion. As his daughter recalled, “he saw enemies everywhere,”¹¹ even among his closest associates, and he believed the capitalist world was determined to destroy his communist state. He had hoped German workers would rally to the cause of proletarian internationalism, but heavy-handed Soviet rule in its occupation zone quickly ruled that out. Stalin’s main goal was to keep Germany weak so it could never again attack the Soviet Union; his main fear was German power coupled with that of his capitalist foes. The Marshall Plan in his eyes risked exactly that.

As long as Germany remained under four-power rule, Moscow could veto any Western program for the country. By the end of 1947, it was clear that East and West were deadlocked over Germany’s future, and the three Western powers decided to free themselves from the Soviet veto and act on their own. Meeting in London from mid-February until early March 1948 and again from late April until the end of May, they debated plans for political and economic reforms in their three zones. They would merge the zones, introduce a new currency to stimulate the economy, and create a separate West German government. The Soviets and their satellites protested, but the Western powers continued work on this so-called “London program.”¹² Three days

¹¹Quoted in Daniel H. Yergin, *Shattered Peace* (Boston, 1977), 51.

¹²For these discussions, see *FRUS, 1948*, 2: 75-317.

after the initial London session adjourned, Moscow called its military governor, Marshal Vasilii D. Sokolovsky, and his political advisor home for urgent consultations. They and their superiors decided to impose a gradually escalating series of restrictions on all Western traffic to and from Berlin. The purpose was not to eject the Western powers from the city; it was to force them to abandon their plans for western Germany.¹³

Stalin went further, indicating to German communist party leaders that his goal was to evict the Western powers from Berlin. Predicting defeat for his party in city elections scheduled for the autumn, Wilhelm Pieck told the Soviet leader 26 March that he and his colleagues “would be glad if the [Western] Allies left Berlin,” prompting Stalin to reply, “Let’s try with all our might, and maybe we’ll drive them out.”¹⁴ Stalin’s words suggest that he and his advisers had not thought carefully about their goals. Berlin’s role in the strategy outlined to Sokolovsky was to serve as something of a hostage. In exchange for the city’s safety, the West was supposed to make concessions on the London program. If Stalin had his way and Berlin passed under Soviet control—if the hostage died—Moscow could not expect to achieve its main prize, a Western defeat in the broader competition for control of all of Germany.

Sokolovsky had already begun tightening his grip on Berlin, walking out of the Allied Control Council 20 March and calling into question four-power rule in Berlin and Germany as a whole. Over the next few days, Soviet officials complained of “bandits” and criminal elements entering their zone, creating the pretext for new transport restrictions, which they imposed 1 April. They asserted a right to board Western military trains and inspect freight and identity papers.¹⁵ If the Soviets could inspect passengers and freight, they would control Western access to Berlin and the allies’ presence there would be at their sufferance. Western leaders saw the dangers clearly. Clay predicted, “If we permit entry, it will be only a day or two until one of our people is pulled off on trumped up charges,” while Robertson warned London the Russians intended “to screw the iron curtain down more firmly ... [and] show the Germans and ourselves that they have us by the throat.”¹⁶ The two men rejected Soviet demands and sent five trains toward Berlin to test Soviet resolve. The Soviets stopped

¹³See Michail M. Narinskii, “The Soviet Union and the Berlin Crisis, 1948-9,” in Francesca Gori and Silvio Pons, eds., *The Soviet Union and Europe in the Cold War, 1943-53* (New York, 1996), 62-64. Clay’s famous 5 March “warning” message was thus unwittingly prophetic. Those who contend Clay’s warning was purely a budget ploy overlook the general’s comment to US ambassador Lewis Douglas late in February that he, Clay, for the first time really believed Moscow wanted war soon. Cf. Jean Edward Smith, ed., *The Papers of General Lucius D. Clay: Germany, 1945-1949* (2 vols., Bloomington, Ind., 1974), 2: 568 (hereafter cited as Smith, ed., *Clay Papers*), and Alan Bullock, *Ernest Bevin: Foreign Secretary, 1945-1951* (New York and London, 1983), 526. For similar (though later) statements by the US military governor, see Strang memos, 28 Apr 48, in 70492/C3524 and 70493/C3581, FO 371, PRO.

¹⁴Quoted in Narinskii, “Soviet Union and the Berlin Crisis,” 65.

¹⁵*FRUS*, 1948, 2: 883-4; Smith, ed., *Clay Papers*, 2: 601-2.

¹⁶Smith, ed., *Clay Papers*, 2: 603; Robertson to Bevin 510, 2 Apr 48, 70490/C2529, FO 371, PRO.

them but did not try to force their way aboard. Eventually four of the trains backed out of the Russian zone (one US train crew allowed Russians on board and was permitted to proceed). Rather than submit to Soviet inspection, Robertson and Clay canceled all further military passenger trains to and from Berlin.¹⁷ This “baby blockade,” as it came to be known, was aimed at the Western military garrisons, not the city’s population. Freight and passenger traffic for Berliners moved in both directions without interference. One US military freight train entered the Soviet zone on the night of 2-3 April. The Russians did not enforce their new rules; they checked the train’s documents but made no attempt to inspect its cargo. Clay had already notified Washington that the Western garrisons could “continue under present conditions indefinitely.”¹⁸

With surface lines of supply uncertain, Clay organized a small airlift, which over the next ten days delivered 327 tons of cargo for use by the US garrison in Berlin. First Lieutenant Oliver P. Laatsch of the 61st Troop Carrier Group flew the first mission on the evening of 1 April, carrying a load of coffee and sugar. The group made 33 flights the following day.¹⁹ At the headquarters of United States Air Forces in Europe (USAFE) in Wiesbaden, planners expected to be flying 80 tons a day plus passengers and mail by 4 April. The logistics staff of the US garrison in Berlin could specify what it needed in terms of tons, cubic feet and categories of supplies because it had begun analyzing them in February, after the Soviets had interfered with British trains. On the twelfth, the Soviets let a US military freight train through to Berlin without attempting to board or inspect it, and US military freight into the city resumed, allowing the airlift to stand down. Still, USAFE continued to fly about ten missions a day into Berlin, mainly to move household goods and some surplus garrison equipment out to the zone.²⁰

The Army, which loaded and unloaded the planes, learned several lessons that proved valuable later. To eliminate confusion and duplication of effort, a single agency in Berlin should define requirements; based on that, one agency in the Western zones should determine what cargoes should be flown in. Twelve-man crews of laborers could load a C-47 faster from a truck backed carefully up to the airplane’s cargo door than a team using a forklift. Within a few days crews were loading planes in an average of eight minutes.²¹

¹⁷Smith, ed., *Clay Papers*, 2: 607.

¹⁸*FRUS, 1948*, 2: 889; Elizabeth S. Lay, Hist Div, HQ EUCOM, “The Berlin Air Lift,” (2 parts, Karlsruhe, 1952), 1: 3, microfilm reel Z-0029, USAFE/HO.

¹⁹Study, USAFE/HO, “USAFE and the Berlin Airlift, 1949: Supply and Operational Aspects,” 8 Feb 50, 2, microfilm reel Z-0040, USAFE/HO; Rpt, USAFE/PA, “61st Group,” n.d., microfilm reel Z-0039, USAFE/HO. According to the *Task Force Times*, a C-54 from the 61st, piloted by 1Lt John M. Christenson, made the first flight. See *Task Force Times* (hereafter cited as *TFT*), 6 Oct 48.

²⁰Lay, “Berlin Air Lift,” 1: 5; *Hist of USAFE, Apr 48*, App 37; Rpt, Lt Col Lester H. Gallogly, *et al.*, “Report of Department of the Army Observer Group Concerning Study of Operation VITTLES,” 16 Feb 49, 6-7, reel Z-0038, USAFE/HO (hereafter cited as “Gallogly Rpt”).

²¹Lay, “Berlin Air Lift,” 1: 3, 6-7; Gallogly Rpt, 6.

This mini-blockade heightened Westerners' awareness of the city's vulnerability. Authorities in Berlin tried to increase stockpiles and evacuate unneeded people and equipment. Coal shipments, less than 1,500 tons in March, increased to 12,000 in April and 10,000 in May. The US Army put two truck companies on alert for possible airlift support. European Command's Transportation Corps developed plans to park loaded trailers on airfields ready to be moved to planeside. European Command and the US Berlin Military Post increased the latter's stocks of food and fuel. The Royal Air Force (RAF) was also busy on an airlift plan known as "Knicker." As in the US plan, the mission was to support the garrison, not the civilian population of the city. Completed 19 June, Knicker called for two "Dakota" (C-47) squadrons (16 aircraft) to deploy from Britain to Germany and fly 65 tons a day into Berlin. For planning purposes, the operation was expected to last no more than 30 days.²²

Even though pressure on Berlin had not forced the West to reverse course, the Soviets were pleased. They had humiliated the British and Americans in German eyes, there were signs the Westerners were reducing their staffs in Berlin, and Soviet officials judged the minuscule airlift had been a failure. There was every reason to intensify pressure on Berlin. In keeping with the mid-March decisions in Moscow, the new measures included steps to curb Western air access. Soviet officials renewed demands that the West notify them of each flight 24 hours in advance and obtain Soviet permission for civil aircraft flying in the corridors. They tried to interpret the November 1945 air corridor agreement to limit Western flights to those needed to support the Western garrisons. The defeat of one Russian proposal encouraged another, and harassment continued. A Soviet fighter buzzing a British airliner collided with it over Berlin on 5 April, killing all on board both aircraft. On 17 April, three Soviet fighters made passes at an American plane but did not fire. The Soviet representative in the Berlin Air Safety Center tried to ban all night flying 4 May, but the Western representatives rejected the right of any one power to impose unilateral restrictions. Later that month, the Soviets announced vague fighter movements in the corridors, an apparent attempt to preempt Western use of the airways.²³

²²Lay, "Berlin Air Lift," 1: 6-8; Gallogly Rpt, 7-10; Rpt, BAFO, "A Report on Operation Plainfare (The Berlin Airlift) [AP 3257]," Apr 50, 5, 95-97, AIR 10/5067, PRO (hereafter cited as "BAFO Rpt").

²³Study, USAFE/HO, "USAFE and the Berlin Airlift, 1948: Supply and Operational Aspects," 1 Apr 49, 2, microfilm reel Z-0039, USAFE/HO; Murphy to Marshall 319, 8 Mar 48, 740.00119 Control (Germany)/3-848, RG 59, NA; W. Phillips Davison, *The Berlin Blockade: A Study in Cold War Politics* (Princeton, 1958), 65-67; Great Britain, Foreign Office, *Germany (1948): Report of the Court of Inquiry into the Circumstances of the Collision between a Viking Airliner and a Soviet Service Aircraft on 5th April 1948, Berlin, 14th - 16th April 1948 (Command Paper 7384)* (London, 1948); LeMay to Clay, UAX 7889, 22 Apr 48, P&O 092, case 137, RG 319, NA; Chase to Marshall 1056, 5 May 48, 740.00119 Control (Germany)/5-548, RG 59, NA; Turner Rpt atch to Murphy to Hickerson, 28 Jun 48, 740.00119 Control (Germany)/6-2848, RG 59, NA.

Despite the heightened sense of vulnerability, Soviet pressure did not cause Western leaders to abandon the London program. British and American officials had looked at the risk to Berlin following the breakdown of foreign ministers' meetings in December 1947. There seemed two possibilities. The Soviets might cut supplies for the Western garrisons or for the entire city. In the first case, airlift could easily meet all needs, as it had in the "baby blockade." In the second case, nothing could be done, but officials were not worried about this possibility because they did not believe the Soviets would do it. A full blockade of Berlin meant an open break with the West and risked war. It would alienate all Germans and swing them behind the West, inflicting a serious political defeat on the Soviet Union. As one US official said publicly in January 1948, the Soviets were not "so foolish as to deliberately and publicly starve the people of Berlin." One common argument was that if the Soviets blockaded the city, they would have to support its entire population. Moscow had geared its occupation to pumping resources out of Germany, so analysts doubted it would create a situation in which it had to pump them in.²⁴

New Soviet restrictions in May and early June did not force reconsideration of these views. The US Central Intelligence Agency in April had described withdrawal under Soviet pressure as a "major political defeat with world-wide repercussions," yet it did not seem to think the Soviets would exploit their advantage and try to force a Western retreat. It advised President Truman 9 June the Soviets did not believe the London program would succeed and were unlikely to take strong action until they thought it would. In the meantime, Moscow was likely to intensify its harassment. A second paper, examining the effects of Soviet transport restrictions as of 1 June, was also unlikely to set off alarm bells. Issued 14 June, it contended that Western intelligence activities, the *Kommandatura* (the four-power agency governing Berlin), and the *Magistrat* (the city government) had suffered more than travel.²⁵

So the Western governments continued their plans for a separate West German state. The conference in London reconvened 20 April and adjourned 31 May. The heart of its recommendations was to convene a constituent assembly by 1 September; a West German government could take shape within a year. The first step in the program

²⁴Unnamed US official quoted in *New York Times*, 13 Jan 48, 10. See also *FRUS, 1947*, 2: 905-07; Hillenkoetter to Truman, 22 Dec 47, box 13, Naval Aide Files, Harry S. Truman Library, Independence, Mo.; Blum to Ohly, n.d. and 13 Jan 48, Royall to Forrestal, 19 Jan 48, and Ohly to Forrestal, 21 Jan 48, all in file CD 6-2-9, RG 330, NA; Kenneth Condit, *History of the Joint Chiefs of Staff*, vol. 2: 1947-1949 (Wilmington, Del., 1979), 129-30; Steven L. Rearden, *The Formative Years* (Washington, D.C., 1984), 280-81; Smith, ed., *Clay Papers*, 2: 622, 699; CP(48)5, 5 Jan 48, CAB 129/23, PRO; files 70489/C1256, 70489/C1547, 70490/C2319, and 70491/C2764, FO 371, PRO; Stone to Pearson, 22 Jan 48, W-22-5-G, vol. 119, series 18, RG 2, National Archives of Canada (NAC), Ottawa. Also see the discussion in Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy* (New York, 1974), 119-32.

²⁵CIA 4-48, 8 Apr 48, box 203, and Hillenkoetter to Truman, 9 Jun 48, box 249, both in President's Secretary's File (PSF), Truman Papers, Truman Library; ORE 41-48, 14 Jun 48, box 255, PSF, Truman Papers, Truman Library.

was to introduce a separate new currency in the Western zones, the *Deutsche Mark*, that would replace the *Reichsmark* currently circulating in all four zones. Announced on 18 June, with effect two days later, the currency reform led directly to four-power confrontation over Berlin.

The initial Western reform did not include the city. When the Soviets announced their zonal currency reform late on 22 June, they included all of Berlin in keeping with their oft-repeated formula that the city was “located in the Soviet occupation zone and economically forms part of it.” To accept such a claim, Clay and Robertson realized, would place Berlin in Soviet hands. They had little choice but to introduce a special version of the *Deutsche Mark*, stamped with a “B” and therefore quickly dubbed the “B” mark, into their sectors 23 June.²⁶ At 2 a.m. the following morning, Soviet officials announced the rail line from Helmstedt had closed due to “technical difficulties.” Road and barge traffic from the western zones was also suspended. Citing “shortages of coal” due to the suspension of rail traffic, Soviet officers stopped the supply of electricity to the Western sectors. Completing West Berlin’s isolation, Russian officials prohibited sales of food and supplies from the zone to the Western sectors on the morning of 24 June, to prevent, they said, circulation of the Western currency in the Eastern zone.²⁷ Berliners thus awoke on Thursday, 24 June, to find themselves under Soviet blockade.

Blockading Berlin must have appeared as a high-gain, low-risk strategy to the Soviets. They may have expected Berliners to panic: rather than face starvation, the city’s residents would throw the Westerners out and invite the Soviets in. Even if that did not happen immediately, the blockade seemed to leave the Western powers with no good options. It seemed obvious they could not feed the city or supply it with coal, its basic energy supply. Therefore, they had only three choices. They could go hat in hand to Stalin and abjectly ask for terms. Assuming they would not do that, they could either withdraw from Berlin or attempt to reopen the road and rail routes by force. Like surrender, withdrawal meant Western humiliation, turning all of Berlin over to Soviet control, and the probable collapse of the London program. Having seen the Western powers retreat in the face of Soviet pressure in Berlin, what West German politician would cast his lot with them? But the effects of withdrawal would go even farther. It would undermine American credibility throughout Europe, crippling the Marshall Plan and aborting the talks for a North Atlantic security pact, which had just begun.

The alternative, trying to break the blockade on the ground, would be a military disaster. It risked an armed clash with greatly superior Soviet ground forces and escalation to global war. The risk might have been acceptable if such a step held reasonable prospects of success. It did not. The Soviets had already shown they could stop Western trains trying to reach Berlin without firing a shot. Barges en route to the city had to pass Soviet-controlled locks. That left an armed convoy of trucks. What

²⁶FRUS, 1948, 2: 910-15.

²⁷Robertson to Bevin 1166, 24 Jun 48, 70495/C4838, FO 371, PRO; O. M. von der Gablentz, ed., *Documents on the Status of Berlin* (Munich, 1959), 63; *New York Times*, 24 Jun 48, 1.

would it do if it met Soviet tanks blocking the road? The USAFE commander, Lieutenant General Curtis E. LeMay, recalled later that if such a convoy met serious resistance he intended to attack every Soviet airfield in eastern Germany at once, on the assumption the Kremlin had decided to start World War III. But the Russians could stop the convoy short of such a dangerous confrontation, merely by dynamiting bridges or overpasses. The US had so few pontoon bridges in Germany that if the convoy commander had to build a new bridge across the Elbe at Magdeburg he could not have reached Berlin without picking up pontoons behind him and laying them ahead of his troops as they inched their way forward. And if one convoy reached Berlin, there was no assurance that later ones would. The only way to guarantee access was to occupy the 125 miles of autobahn between Berlin and the Western zones, and even Clay, the only senior Allied figure to advocate a convoy, acknowledged the Western powers did not have enough soldiers to do that.²⁸

The one bright spot on an otherwise gloomy horizon was Western leaders did not have to choose between these unpalatable alternatives immediately. Robertson and Clay advised their capitals there was enough food and other supplies to sustain the garrisons and the city population for three or four weeks. There was always the chance that the whole thing might blow over by then. The Kremlin had not delivered an ultimatum or made any political demands. By blaming “technical difficulties” for the suspension of traffic, Moscow had left itself a graceful way to back down if challenged. Furthermore, its restrictions might be temporary, a move to keep the B-mark out of the Soviets’ zone until they could rush through a currency reform of their own. Clay had seen the restrictions Sokolovsky imposed 19 June in just this light. “There wasn’t anything else they could do,” he commented in a staff meeting. “If they had put in a currency reform and we didn’t, it would have been the first move we, too, would have had to take.” The head of the German Political Department at the British Foreign Office, Patrick Dean, echoed him, telling a Canadian diplomat 23 June the Soviet responses to the Western currency reform “were not unexpected and were exactly what Britain would have followed in [the] opposite contingency.”²⁹ The idea that Stalin was too smart to take a step that would alienate all Germans also died hard. Questioned

²⁸For LeMay’s plan, see Curtis E. LeMay and MacKinlay Kantor, *Mission with LeMay* (Garden City, N.Y., 1965), 411-12, and LeMay oral history interview, 9 Mar 71, 13-14, file K239.0512-736, AFHRA. See also Arthur G. Trudeau oral history interview, 17 Feb 71, pp 29-30, US Army Military History Institute, Carlisle Barracks, Pa. For Clay’s acknowledgment of some of the problems with his proposal, see Lucius D. Clay oral history interview, 9 Mar 71, Columbia University Oral History Project (CUOH), Columbia University, New York, N.Y. For contemporary doubts about his plan, see Smith, ed., *Clay Papers*, 2: 733-40; Annex I to Appendix B, atch to Bradley to Royall, 16 Jul 48, CD 6-2-9, RG 330, NA; Robertson to Strang 1198, 27 Jun 48, 70496/C5009, and Robertson to Bevin 677 Basic, 16 Jul 48, 70502/C5740, both FO 371, PRO.

²⁹Mins, OMGUS staff mtg, 19 Jun 48, box 5, OMGUS Mins, Washington National Records Center, Suitland, Md.; Robertson to Pearson 925, 23 Jun 48, vol. 441 William L. Mackenzie King Papers, MG 26 J1, NAC. See also McNeil to Attlee, 24 Jun 48, 70497/C5093, and Robertson to Bevin 1180, 25 Jun 48, 70496/C5001, both in FO 371, PRO, for uncertainty over Soviet motives.

about a possible long blockade by a *Stars and Stripes* reporter 24 June, Clay shot back, “Do you think the Russians want to starve 2,000,000 Germans?” He took the same line in a cable to Washington the following day. “I still doubt Soviet intent to drive us out by starving Berlin. I think it more probable that immediate intent was to frighten Berlin people so they would not accept Western currency. A few days should determine this.” His political adviser, Robert D. Murphy, agreed. “Mass starvation of this [Berlin] population would not seem to harmonize with present Soviet political aims in Germany,” he advised Washington. In London, Patrick Dean told his Canadian colleague much the same thing, predicting the Soviets would stop starving Berliners because they realized it was not good propaganda.³⁰

If the Soviets persisted, though, it seemed certain that the West would sooner or later confront the stark choice between withdrawal and a possible war. If hurried consultations ruled out withdrawal, at least for the time being, many questioned whether Berlin was worth a war the West was unprepared to fight.³¹ The situation looked gloomier than it really was. While leaders in Washington, London, and Paris searched for a solution, one was taking shape elsewhere, in the skies over Germany.

³⁰Clay quoted in Lay, “Berlin Air Lift,” 1: 9; *FRUS, 1948*, 2: 921; Robertson to Pearson 925, 23 Jun 48, vol. 441, King Papers, MG 26 J1, NAC.

³¹Compare, for example, President Truman’s comments of 28 June in Walter Millis and E.S. Duffield, eds., *The Forrestal Diaries* (New York, 1951), 454, with his views one day later in Rearden, *Formative Years*, 292.

CHAPTER 2

THE AIR FORCES RESPOND

What we know as the Berlin Airlift began quietly and on a small scale, with modest goals. No one connected with it saw it as anything more than a stopgap, a desperate and ultimately doomed effort to buy time. Yet it would grow in the coming days and months into an unprecedented aerial operation that would defeat the blockade.

The British and Americans began airlifting supplies to Berlin without a thought of feeding the entire city. The two air forces were merely repeating what they had done in April to support their fellow Westerners there. Expecting trouble after the Soviets stopped interzonal travel in response to the announcement of the Western currency reform, US officials began gathering supplies for the garrisons. The US Army set up a traffic control point at Rhein-Main, the US air base outside Frankfurt, to prepare cargo for airlift 18 June; Lieutenant Colonel I. L. Allen of European Command headquarters ordered supplies be trucked there from the army depot in Giessen, north of Frankfurt. Fresh milk and flour began moving south the following day. Three C-47s flew 5.88 tons of supplies on 21 June from Rhein-Main to Tempelhof, the American air base in Berlin. Forty flights delivered 90 tons on 22 June, the same day that Clay's deputy directed LeMay to commit all available planes to the effort. USAFE lifted between 80 and 90 tons a day for the next few days.¹ The British waited until imposition of the full blockade to respond. On 24 June, the British Air Forces of Occupation (BAFO) ordered Operation Knicker. Eight "Dakotas" under the command of Wing Commander G. H. Gatheral flew the following afternoon from RAF Waterbeach, northeast of Cambridge, to RAF Wunstorf, a few miles west of Hannover in the British zone. Three of them flew into RAF Gatow in Berlin that night, delivering 6.5 tons of supplies. (According to one report, the first Dakota was from No. 18 Squadron and it landed at 4:00 a.m., Saturday, 26 June.) Eight more Dakotas reached Wunstorf on Monday, 28 June.²

By Monday, things had begun to change. These small parallel efforts could fly in more supplies than the three Western garrisons needed, so why not distribute the surplus

¹Gallogly Rpt, 11; Lay, "Berlin Air Lift," 1: 1-2, 7-8; USAFE/HO, "USAFE and the Berlin Airlift, 1948," 11, 38-39; Press Release, USAFE/PA, "Combined Tonnage," n.d., microfilm reel Z-0038, fr 1544.

²BAFO Rpt, 117, 129. For the first Dakota arrival, cf. Arthur Percy, "The Berlin Airlift," *Journal of the American Aviation Historical Society*, 34:3 (Fall 1989): 197 and 205.

to the city's residents? Clay and Robertson had met on Saturday and agreed to begin flying in food for Berliners on Monday. While this made sense, no one thought it could do more than postpone the inevitable. When a US reporter asked General Clay if an airlift could supply the entire city, he replied bluntly it was "absolutely impossible." "As matters now stand," he warned Washington Friday, Berliners "will begin to suffer in a few days and this suffering will become serious in two or three weeks," when existing stockpiles began to run out. He reiterated this assessment the following day, telling Pentagon officials flatly an airlift "cannot supply the German civilian population with adequate coal and food." He remained doubtful after his Saturday meeting with Robertson, telling a German friend with a snap of his fingers, "I wouldn't give you *that* for our chances."³

No one in Washington, London or Paris challenged Clay's pessimistic assessment. The President's senior military and diplomatic advisers gathered at the Pentagon on Sunday, to consider options in preparation for a Monday meeting in the Oval Office. The group thought current stocks plus airlift of dehydrated foods might enable Berlin to hold out for up to sixty days. As they saw it, they had three options: decide now to withdraw at some "appropriate time"; decide now to use "all possible means," including starting a war, to stay in Berlin; or stay for the time being while postponing the "ultimate decision to stay in Berlin or withdraw." The notion of breaking the blockade by airlift did not figure in the discussion at all.⁴ In London, meanwhile, officials urged an expanded airlift to show Western resolve and bring in "at least some supplies for the civilian population," but they had no hopes about its long-term value. The British Foreign Secretary, Ernest Bevin, summed up the prevailing view by echoing Clay: "we could not supply the whole German population by air."⁵ Neither his advisers, Cabinet colleagues, nor the British chiefs of staff challenged that premise.⁶ A senior diplomat talked in terms of feeding *some* Berliners,

³Richard Collier, *Bridge Across the Sky* (New York, 1979), 55; Memo, "US Position Regarding the Continued Occupation of Berlin (Gen Clay's Comments)," 26 Jun 48, P&O 381 TS (26 Jun 48), RG 319, NA; Smith, ed., *Clay Papers*, 2: 697, 707-08; Robertson to Bevin 1199, 27 Jun 48, 70496/C5010, FO 371, PRO; Clay quoted in Eugene Davidson, *Death and Life of Germany* (New York, 1959), 202-03. *Newsweek* reported Clay as saying the Russians were about to make Berliners suffer so much that "the Westerners might have to get out to save them from starvation." *Newsweek*, 32:1 (5 Jul 48): 30. Cf. Smith, ed., *Clay Papers*, 2: 706. For estimates of existing stocks, see Bohlen to Hickerson, 26 Jun 48, box 5, Charles E. Bohlen Papers, RG 59, NA; Smith, ed., *Clay Papers*, 2: 699; Robertson to Bevin 70495/C4921, 24 Jun 48, FO 371, PRO.

⁴Millis and Duffield, eds., *Forrestal Diaries*, 452-54. For this meeting, see also Omar Bradley and Clair Blair, *A General's Life* (New York, 1983), 479-80; Mins, "State - National Defense Meeting ...," 27 Jun 48, and Maddocks to Bradley, 28 Jun 48, both in P&O TS 1948 Hot File, RG 319, NA.

⁵Brownjohn to Robertson 1352, 25 Jun 48, 70495/C4803, FO 371, PRO; CM(48)43, 25 Jun 48, CAB 128/13, PRO; Bevin to Franks 915, 26 Jun 48, 70497/C5032, FO 371, PRO. See also Kirkpatrick to Hollis, 26 Jun 48, 70496/C5015, FO 371, PRO.

⁶For senior FO views and those of the chiefs of staff, see Gilchrist min, 28 Jun 48, 70596/C5008, Strang memo, 26 Jun 48, 70498/C5176, and MOD to JSM COS(W)585, 28 Jun

not all of them. If the Western powers could feed “the key Germans on whom we depended, i.e., newspaper proprietors and politicians who collaborated with us,” Sir Ivone Kirkpatrick told the British chiefs of staff, “we should be able to ensure that they were not ... subject to arrest by the Russians.” Others (Britons and Americans alike) considered how to evacuate some or all of the city’s residents.⁷

There were valid reasons for discounting the value of an airlift in the current crisis. There were too few cargo planes available in Germany to do the job. The French had none in the country, while USAFE and BAFO were fighter organizations with few cargo aircraft at their bases and little transport expertise on their staffs. BAFO had a half-dozen transports it used to shuttle passengers and mail around the British zone, plus another for its commander, Air Marshal Sir Arthur P. M. Sanders. USAFE had two troop carrier groups, the 60th and 61st, for a total of about 70 operational planes. The two groups were busy moving people and cargo throughout Europe and the Middle East and training with the Army. Both units flew twin-engine C-47s, the military version of the Douglas DC-3. Designed in 1934, the reliable “Gooney Bird,” as American pilots called the plane, had become the workhorse of the world’s airlines before the war. Then it saw extensive service as a troop carrier. A passenger ship, not a freight hauler, the C-47 could carry three tons of cargo. These small, aging ships, some still bearing faded black-and-white stripes marking them as veterans of the Normandy invasion, were stationed at two bases. The 61st Troop Carrier Group, with around 25 C-47s under the command of Colonel Walter S. Lee at Rhein-Main, was in a good position to support Berlin. Colonel Bertram G. Harrison’s 60th Troop Carrier Group, though, and its 45 planes were well to the south at Kaufbeuren, southwest of Munich in Bavaria.⁸

In addition to the limited numbers of aircraft on hand, USAFE and BAFO had only a few airfields available, and none of them was suitable for a large airlift. The Americans could use Rhein-Main and nearby Wiesbaden (also called Y-80). The former was a fighter base with individual aircraft hardstands dispersed along either side of a single 6,000-foot runway. Wiesbaden, another fighter base, had one 5,500-foot runway. The RAF base at Wunstorf was better equipped, featuring two concrete runways as well as taxiways and some concrete aprons in front of the hangars. The real bottlenecks, though, were in Berlin. The city had only two airports, Tempelhof and Gatow, and it was doubtful they could handle the traffic needed to keep Berlin alive, assuming enough planes were provided in the first place. Located in the heart of the city, Tempelhof could challenge the bravest pilots, as crews on final approach dodged a

48, 70500/C5340, all in FO 371; COS(48)87th Mtg, 28 Jun 48, DEFE 4/14; and CM(48)43, 25 Jun 48, CAB 128/13; all in PRO.

⁷Kirkpatrick’s comments are in COS(48)87th Mtg, 28 Jun 48, DEFE 4/14, PRO. For possible evacuations, see CM(48)43, 25 Jun 48, CAB 128/13; COS(48)102d Mtg, 19 Jul 48, DEFE 4/14; and file 70505/C6208, FO 371, all in PRO; Litchfield to Wedemeyer, 2 Jul 48, “G801.4 Berlin II” folder, box 4, Records of the Division of Central European Affairs, RG 59, NA; and plan, 21 Jul 48, 740.00119 Control (Germany)/8-2148, RG 59, NA.

⁸Frank Donovan, *Bridge in the Sky* (New York, 1968), 42; BAFO Rpt, 129; [Berlin *Magistrat*], *Airlift Berlin* (Berlin, 1949), 51.

400-foot brewery smokestack and skimmed within a hundred feet of the tops of apartment buildings surrounding the airfield. Its spectacular curved building, soon to be famous around the world, and its broad parking apron of marble blocks contrasted dramatically with its lack of concrete runways. The Americans laid a 5,000-foot pierced-steel plank (PSP) runway in the summer of 1945. Planes used it for landings but still took off from sod. Gatow, Berlin's second airfield, was located on the city's western outskirts and was operated by the RAF. Like the Americans, the British had laid a PSP runway there in 1945. Sandy soil underneath made it unsuitable for even light traffic, so the RAF began building a 6,000-foot concrete runway in 1947. The work was now only three-quarters complete. Gatow's electricity came from a power station in the Soviet zone.⁹ Navigational aids to support an airlift were limited. The three American bases had Ground Controlled Approach (GCA) systems. There were radio ranges at Rhein-Main, Frankfurt, Fulda, and Tempelhof, plus beacons at Tempelhof, Wiesbaden, and Offenbach. For much of the route over the Soviet zone, planes would be on their own, beyond the reach of navigational aids.¹⁰

There were other reasons why an airlift looked like a long shot, such as history, the weather, and possible Soviet interference. Few large-scale efforts at aerial resupply had succeeded. The main exception was the "Hump" operation from India to China during the Second World War. If precedent were not bad enough, the weather was. If US airports were ranked according to their flying weather, Pittsburgh, Pennsylvania, would be at the bottom of the list. But if Pittsburgh's weather were compared with conditions at German airports, the Pennsylvania city would win top rank. Put another way, the worst American flying weather was better than the best German weather. And Berlin? It had the worst flying conditions in Germany.¹¹ Soviet interference was another potential problem. If Moscow were serious about driving the Western powers out, it might try to disrupt Berlin's aerial lifeline. Soviet interference could take several forms, starting with disruption of Gatow's electricity. No one could rule out violent attacks on Western aircraft, unlikely though that appeared. Other possibilities were jamming radio traffic and navigation aids or flying barrage balloons in the corridors. There were a tense few hours on 30 June after reports reached Washington that there *were* balloons in one corridor and the British intended to shoot them down. In a hurried meeting, Secretary of Defense James V. Forrestal, the Joint Chiefs of Staff, and other officials debated whether the American people were willing to start World War III over those balloons and, if war broke out, what cities in Russia would be destroyed by US atomic bombs. The reports turned out to be

⁹BAFO Rpt, 325-27; Robert Jackson, *Berlin Airlift* (Wellingborough, U.K., 1988), 82; Don Downie, "Long Ranger," *Wings*, 20:2 (Apr 90): 20; Rpt, USAFE, "Construction for United States Air Force in Europe," 1 Aug 48, box B48, Curtis E. LeMay Papers, Library of Congress Manuscript Division (LOCMD), Washington, D.C.; Arthur W. D. Harris *et al.*, "A Special Study of Operation 'Vittles'," *Aviation Operations*, 11:5 (Apr 49): 58; Dudley Barker, *Berlin Air Lift: An Account of the British Contribution* (London, 1949), 43; Eric Morris, *Blockade* (New York, 1973), 120.

¹⁰Rpt, USAFE, "Berlin Airlift: A USAFE Summary," p 40, microfilm reel Z-0039, USAFE/HO.

¹¹Donovan, *Bridge*, 65-66.



A September 1946 aerial view of Wiesbaden Air Base, several miles west of Rhein-Main. The base had not changed in any significant way by June 1948, when C-47s of the 60th Troop Carrier Group deployed from Bavaria and began flying cargo into Berlin.



Known to generations of Americans as the “Gateway to Europe,” Rhein-Main was a small base in the summer of 1948. The empty area to the left of the photograph is now the site of the mammoth Frankfurt *Flughafen*.

false, but the sobering look over the brink made Forrestal and his aides doubly determined to control the risks of escalation both sides faced in Berlin.¹²

It made sense to expand the airlift even if its long-term prospects remained bleak. Urged on by Bevin, the RAF prepared to send every transport it had to Germany once Gatow's new runway was ready.¹³ On the American side, the initiative remained with Clay. He telephoned USAFE headquarters 25 June to discuss the possibilities. Clay wanted to know how many additional planes would be needed for a "very big operation," specifically, boosting the total to 500 tons a day and sustaining that level for three to six weeks. Following further discussions with LeMay and Robertson, Clay asked Washington on 27 June for two groups (50 planes) of four-engined C-54s, describing the need as "urgent." These extra planes, the most Gatow and Tempelhof could absorb at the moment, would boost US deliveries to 600 or 700 tons a day. The British thought they could deliver around 400 tons a day by 30 June and increase that to 750 tons a day by 3 July. The Western garrisons needed 50 tons a day, and Clay intended to distribute the remaining cargo to the city's residents, who required, it was said, 2,000 tons of food each day. In other words, the combined daily lift would still be 600 tons short of meeting overall needs, but that was not the purpose. Every ton postponed the day when the Allies would have to face the stark dilemma Stalin was trying to impose upon them. Washington approved Clay's recommendation that same day, and orders went out for four C-54 squadrons to deploy to Germany. The movement was code-named "Vittles."¹⁴ Meanwhile, closer to the beleaguered city, USAFE rounded up C-47s scattered across Germany on miscellaneous assignments, plus the 60th Troop Carrier Group in Bavaria, and ordered them all to Wiesbaden Sunday, 27 June, with orders to begin flying cargo into Berlin by 8:00 a.m. the following morning.¹⁵

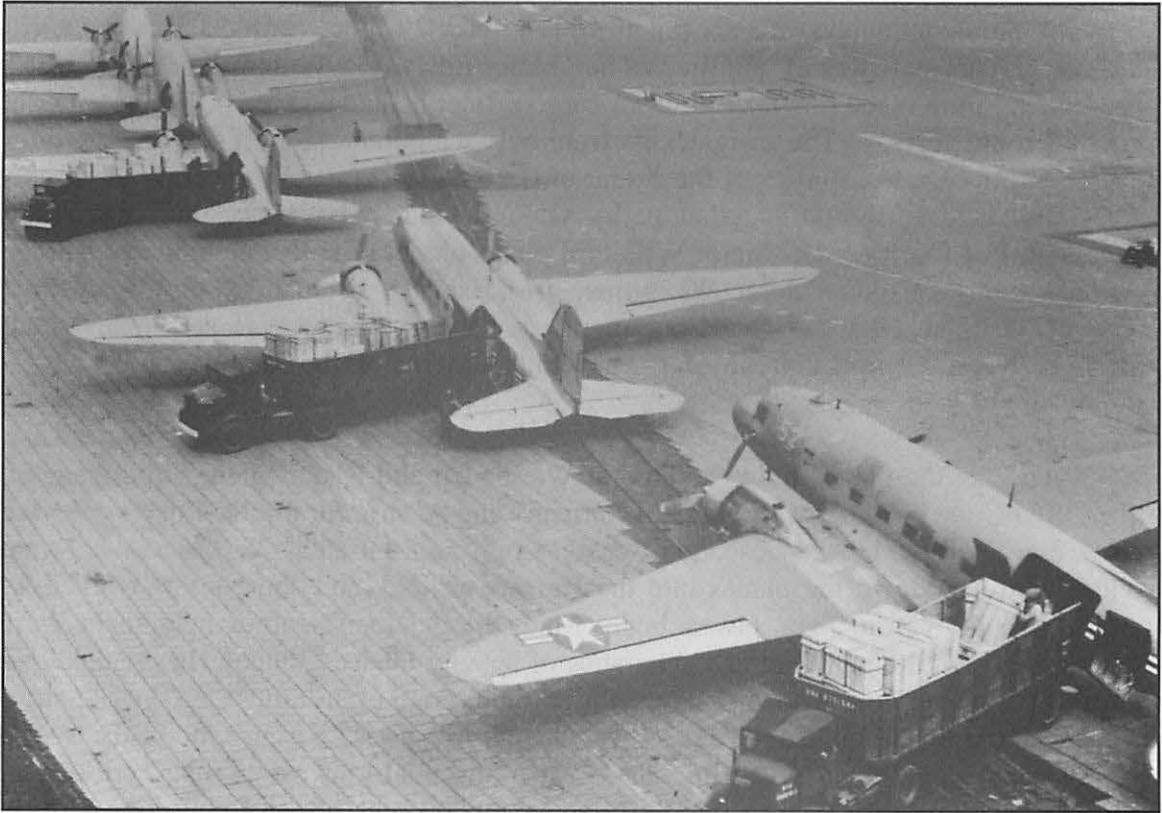
So the airlift began. The US flew its first cargo for Berliners on Monday, 28 June, as 87 C-47 flights delivered over 250 tons. The 60th Troop Carrier Group, which had received its order to deploy from Kaufbeuren at 5:00 p.m. the night before, had a C-47 on its way to Berlin from Wiesbaden at 7:45 a.m. The British also flew in their first supplies for the civilian population, 59 tons in 21 missions. Clay's director of logistics, Brigadier General Williston B. Palmer, first learned of plans to feed the civilian population that day, when he attended a planning conference at USAFE headquarters. LeMay announced his planes would fly around the clock, seven days a week "on a wartime basis." USAFE estimated it would be lifting 450 tons a day in 48

¹²Rearden, *Formative Years*, 292; Mtg Mins, 30 Jun 48, CD 9-3-13, RG 330, NA.

¹³Kirkpatrick to Hollis, 26 Jun 48, 70496/C5015, FO 371, PRO; Brook to Tedder, 28 Jun 48, AIR 20/7148, PRO; BAFO Rpt, 117.

¹⁴Charles J. V. Murphy, "Berlin Airlift," *Fortune*, 38:5 (November 1948): 89ff; *Hist of USAFE, Jun 48*, A-3; Lay, "Berlin Air Lift," 1: 12-13; Smith, ed., *Clay Papers*, 2: 707-08; MFR, "Movement of Aircraft to Europe," 29 Jun 48, P&O 318 TS, RG 319, NA. For British forecasts, see CM(48)44, 28 Jun 48, CAB 128/13, PRO, and for the "Vittles" movement name, see Roger G. Miller, "'Victor Item Tare Tare Love Easy Sugar': A Name for the Berlin Airlift," *Air Power History* (forthcoming).

¹⁵Lt Gen Joseph Smith oral history interview, p 221, K239.0512-906, AFHRA; "USAFE and the Berlin Airlift, 1948," 28.



C-47s line up at Tempelhof, the US base in Berlin, to unload their supplies for the city's residents.

hours, and 1,500 tons a day by 10 July. For his part, Palmer began organizing a flow of supplies to the airfields, with a target of 1,200 tons a day. Truck companies and labor service companies began to converge on Rhein-Main and Wiesbaden; so did mechanics from the 60th Troop Carrier Group, left behind in Bavaria when the C-47s rushed to Wiesbaden. In the northern zone, the British Army set up an Army Air Transport Organisation 28 June. Consisting of Royal Army Service Corps troops, the unit initially had two components. A Rear Airfield Supply Organisation at Wunstorf collected, stored, and prepared cargoes for shipment and loaded them on the aircraft; a Forward Airfield Supply Organisation at Gatow unloaded cargo and turned it over to British military government and Berlin city officials. Army Air Transport Organisation headquarters first operated from Wunstorf but in mid-July moved to Bückeburg and BAFO headquarters.¹⁶

By that historic Monday it was clear that the blockade would last more than a few days. To put the operation on a more solid footing, LeMay appointed Brigadier General

¹⁶Lay, "Berlin Air Lift," 1: 1-2, 10-11; Smith interim Rpt, 30 Jul 48, microfilm reel C5113, AFHRA; "USAFE and the Berlin Airlift, 1948," 28; BAFO Note, 30 Jun 48, AIR 38/384, PRO; BAFO Rpt, 129, 557-63; Gallogly Rpt, 12, 50-52.

Joseph Smith commander of a special airlift task force 29 June. Smith was not an airlift expert, and his staff was as qualified as he. Major Edward L. Willeford confessed later that when Smith made him task force air cargo officer he had no idea how much freight a C-47 could carry.¹⁷ The assignments were only temporary. Smith's orders were for 45 days, the current estimate of the extent of Berlin's stockpiles. Expecting the operation might be even shorter than that, perhaps no more than two weeks, Smith asked for a small staff of four people: Major Willeford plus Colonel Carl R. Feldmann (in charge of operations), Colonel John W. White, Jr. (assisting Feldmann), and Lieutenant Colonel William H. Clark (handling supply and maintenance). He set up his small headquarters at Camp Lindsey, a former German caserne on the southwestern outskirts of the city of Wiesbaden.¹⁸

To man the planes now gathered at Wiesbaden and Rhein-Main, Smith combed the USAFE staff and bases throughout Germany and Austria for pilots. For a while, the only crews available at Wiesbaden, where Smith concentrated over 80 C-47s, were those who had flown the planes into the Hessian airfield, and some pilots worked 48 hours straight before they saw a bed. Many of the men sent to help them were unfamiliar with the handling characteristics of heavily loaded Gooney Birds, including "several fighter pilots who had never flown multi-engine aircraft."¹⁹ Asked about a name for the operation, Smith dubbed it "Operation Vittles" because, he said, "We're hauling grub." For their airlift, the British eventually chose a play on words, "Operation Plainfare."²⁰ The mission: deliver 30,000 tons of food to Berlin in July, with Smith's task force flying two-thirds of it and the RAF the rest.²¹

Like USAFE, BAFO was a fighter organization short on airlift expertise. One senior BAFO staff officer recalled that as fighter pilots he and his colleagues did not look forward to Plainfare "with any great enthusiasm," expecting it would be "a hell of a bore." They knew little about transport aircraft and had no idea what Berlin's requirements were. Short of trained people, without an operations room (command post), and functioning more as a maker of occupation policy than an operational headquarters, BAFO was "in the worst possible state to take on an operation of which

¹⁷Paul Fisher, "The Berlin Airlift," *Bee-Hive*, 23:4 (Fall 48): 9. Fisher spells the officer's name "Willeford," but USAFE rosters omit the first "r." Two other officers, Maj Reade Tilley and 1Lt Norbert J. Engle, were dual-hatted between Smith's task force and USAFE headquarters as public information officer and statistical control officer, respectively, by 1 July. Smith had added personnel, safety, and European Command liaison offices by the end of the month. "USAFE and the Berlin Airlift, 1948," 30-31.

¹⁸Smith oral history interview, pp 219-21, K239.0512-906, AFHRA; *Hist of USAFE, Jun 48*, Appendix 18; USAFE Press Release 1750, 29 Jun 48, microfilm reel Z-0039, USAFE/HO.

¹⁹Smith interim Rpt, 30 Jul 48, reel C5113, AFHRA; "USAFE and the Berlin Airlift, 1948," 28; "USAFE Summary," 122.

²⁰Fisher, "Berlin Airlift," 8. The RAF first replaced "Knicker" with "Carter-Paterson," but changed it 19 July after Communist propagandists pointed out that was the name of a British removals (moving van) company. Barker, *Berlin Air Lift*, 9; BAFO Rpt, 146. As noted earlier, the transatlantic deployment was nicknamed "Vittles," so the name was fresh in Smith's mind.

²¹*Hist of USAFE, Jul 48*, App 19.

we knew nothing.”²² RAF Transport Command sent Group Captain Noel C. Hyde to Wunstorf 30 June to take command of the growing British transport fleet there, making him effectively Smith’s counterpart. Improvisation marked the early days, along with a certain carefree spirit. One British pilot remembered it best:²³

Pilots full of doughnuts and tea went forth to seek any aircraft which happened to be fueled, serviced, and loaded. Hot was the competition, and great was the joy when one was found. Soon the summer skies were full of a monstrous gaggle of aircraft headed in the general direction of Berlin.



C-54s shoulder the load at Tempelhof. German laborers have unloaded sacks of flour from the Skymaster in the foreground and are closing the cargo door so it can return to western Germany and another load.

Then the first four squadrons of C-54 “Skymasters” arrived, marking a qualitative shift in the airlift. The first of these larger planes landed at Rhein-Main on 29 June and flew a mission into Tempelhof before the sun set. By 11 July, 45 of them along with 1,250 crew members and mechanics crowded the ramp at Rhein-Main, organized into a provisional troop carrier group led by Colonel Glenn R. Birchard. The military version of the Douglas DC-4, the C-54 was designed like the Gooney Bird to carry passengers,

²²Sir Kenneth Cross in Air Marshal Sir Frederick B. Sowrey *et al.*, “The Berlin Airlift, 1948-1949,” *Proceedings of the Royal Air Force Historical Society*, 6 (Sep 89): 50-52.

²³Quoted in Barker, *Berlin Air Lift*, 16.

not freight, but with seats removed it could lift 19,600 pounds, nearly three times the load of a C-47.²⁴

The British stepped up Plainfare at the same time, diverting 38 more Dakotas on 28 June and 40 four-engined Yorks. Some maintenance in Britain was put on contract so 300 additional RAF mechanics could deploy to Germany and support the airlift.



RAF Yorks deliver their cargoes at Gatow in assembly-line fashion.



A Coastal Command Short Sunderland flying boat discharges its cargo on Berlin's Havelsee.

²⁴Davison, *Berlin Blockade*, 112; Roger D. Launius and Coy F. Cross, II, *MAC and the Legacy of the Berlin Airlift* (Scott AFB, Ill., Apr 89), 19-20; Donovan, *Bridge*, 53; "USAFE and the Berlin Airlift, 1948," 166.

These were welcome additions. The Yorks, roughly equivalent to the American C-54, carried around 17,000 pounds at a cruising speed of 185 miles an hour. In sending these planes, the British were gambling on a short operation. They stripped the RAF's Transport Command to the bone, canceling long-range services to Africa and the Far East. More important, they suspended transport aircrew training. If the operation lasted longer than a few months, the RAF would face a dilemma: re-start training by withdrawing planes and crews from the airlift, which meant a sharp drop in RAF tonnage to Berlin, or sustain the lift and watch its entire transport crew force erode from lack of replacements.²⁵

A colorful British operation began on 5 July, when giant Sunderland flying boats started shuttling between the old Blohm and Voss seaplane base, Finkenwerder, on the Elbe river at Hamburg, and Berlin's Havelsee. Ten of the planes hauled 60 tons of cargo daily. London sent the planes largely to show Berliners and Russians alike it was making every effort to help the city.²⁶ Starting 11 August, the Sunderlands flew tons of salt. Most other aircraft could not carry salt, because it leaked out of containers, sifted down into the belly of the airplane, and corroded the control cables. The Sunderlands, with their control cables high in the fuselage, carried the corrosive necessity without risk. Flight controllers directed operations from a tent pitched on the banks of the Elbe, working in knee-deep mud. The planes took off and landed on the river, dodging ships and bombed-out hulks in the channel. In Berlin, they transferred their cargoes to barges in the sheltered waters of Havelsee's Klare Lanke, off the north shore of the Schwaneninsel opposite Gatow. From there, the barges carried the vital supplies up the lake to Spandau. Two civilian Hythe flying boats flown by Aquila Airways joined the Sunderlands in early August.²⁷

The Sunderlands were the first airlift planes to use the northern corridor. So far the British had used the central corridor to fly to and from Wunstorf, while the Americans used the southern corridor on their way into Berlin and the central corridor on their way out. To separate the two-way traffic in the central airway, the British

²⁵BAFO Rpt, 14, 117; Mins of Air Ministry Mtg, 13 Aug 48, AIR 20/6891, PRO. The deputy chief of air staff, Air Marshal Sir Hugh Walmsley, later described this decision as "our first mistake." It not only disrupted the flow of aircrew replacements, it also overwhelmed BAFO's maintenance organization. Walmsley lecture to Imperial Defence College, "Berlin Air Lift," 25 Oct 49, AIR 20/6894, PRO.

²⁶Robertson to Bevin 1208, 28 Jun 48, 70497/C5090, FO 371, PRO; AHQ BAFO to Air Ministry AOX.772, 1 Jul 48, AIR 20/7808, PRO; Barker, *Berlin Air Lift*, 34. Air Marshal Walmsley stressed the Sunderlands' symbolic value in his lecture to the Imperial Defence College. Walmsley lecture, "Berlin Airlift," 25 Oct 49, AIR 20/6894, PRO.

²⁷Groth to Marshall A-486, 3 Aug 48, 740.00119 Control (Germany)/8-348, RG 59, NA; *Hist of 1st ALTF, Jan 49*, fr. 936ff., microfilm reel C5110, AFHRA; EXFOR to BERCOMB MGA/64, 101920Z Aug 48, and Rpt, BEA, 6 Aug 48, both in AIR 20/7820, PRO; Percy, "Berlin Airlift," 200-1. See also Sowrey *et al.*, "Berlin Airlift," 62; and Barker, *Berlin Air Lift*, 20.

stayed below 8,000 feet, the Americans higher.²⁸ Both air forces were beginning to shed peacetime routines. At first they flew in daylight only. Frankfurt air traffic control insisted on 25 minutes' separation between flights. LeMay soon stopped that by putting Smith in charge of the air traffic control centers, and within a few weeks the airlift had shifted to a round-the-clock operation. Smith ordered planes through the corridors at four-minute intervals and separated by 1,000 feet in altitude. At first, the RAF spaced Dakotas at six-minute intervals by day and fifteen-minute intervals at night, quickly shortened to four minutes by day and ten at night.²⁹

Reinforcements led to changes. C-54s cruised at ten knots faster than the C-47s, and Yorks were fifteen knots faster still. That, plus the increased numbers of planes in the air, led Smith and Hyde to introduce a "block" system. Smith started his on 4 July, and Hyde followed seven days later. Under Smith's system, all Wiesbaden C-47s left at four-minute intervals, followed by Rhein-Main C-47s. Then the C-54s from Rhein-Main followed, calculated to reach Berlin four minutes behind the last C-47. The cycle repeated itself three times a day. Because of their larger payload, the C-54s had priority over the C-47s at all times. Hyde's system was similar. He launched his Yorks as a group, followed by his Dakotas. The first York would return before the last Dakota left the ground. It would take on another load and launch, timed to reach Gatow only a few minutes behind the last Dakota. The cycle would repeat every four and a half hours.³⁰



Despite poor weather, C-47s reached Tempelhof throughout early July. One crew member recalled that the airfield apron was made of marble blocks that were very slippery when wet. Taxiing required as much care and skill as flying.

²⁸Murphy to Marshall 1553, 30 Jun 48, 740.001009 Control (Germany)/6-3048, RG 59, NA; BAFO Rpt, 113.

²⁹Smith oral history interview, p 223-25, K230.0512-906, AHFRA; BAFO Rpt, 120, 130.

³⁰USAFE Press Release 1771, microfilm reel Z-0039, USAFE/HO; BAFO Rpt, 130; Smith oral hist intrvw, p 227, K239.0512-906, AFHRA; "USAFE and the Berlin Airlift, 1948," 17-18.



The dust and mud at Rhein-Main were proverbial, prompting this cartoon by the *Task Force Times*' gifted artist, "Jake" Schuffert. (*Task Force Times*, 18 February 1949)

Weather was a serious problem throughout early July, with low clouds and pelting rain. Planes encountered ice above 5,000 feet. According to one report, it was the worst July weather in 38 years. Smith recalled over two weeks of "some of the thickest fogs around Europe," rolling in like pea soup. More than half the flights were on instruments. Conditions were so poor the first week in July that RAF Group Captain Brian C. Yarde told reporters at Gatow that normally planes would have stayed on the ground, but the present crisis required them to fly. Weather's effects were not limited to the airways. On 2 July heavy rains at Wunstorf grounded 26 Dakotas due to electrical faults. Wunstorf went through a year's supply of windshield wipers in two weeks. If that were not all, there were no concrete parking aprons at the British airfield, so aircraft parked on the grass. The field "rapidly became a sea of mud" churned up by planes and trucks. Engineers laid 1,700 yards of PSP tracks for hardstands in four weeks. Laid over mud, its corners buckled under heavy loads, wreaking havoc on tires. The problem was not confined to Wunstorf. During the rains of early July, one C-54 needed three new tires after just three landings on Tempelhof's PSP runway. Rhein-Main soon

acquired a nickname, "Rhein-Mud." Under conditions such as these, the opening of Gatow's concrete runway on 17 July was welcome news.³¹

So far efforts had concentrated on flying food into Berlin. Yet everyone soon realized that would not be enough. Coal was as necessary for the city's survival as food. It powered the city's electrical, sewage, and water systems. How could the airlift provide the thousands of tons of coal Berlin needed? Food could be dehydrated, saving weight and space, but not coal. A solution was needed fast: according to one estimate Berlin had only ten days' supply of the vital commodity. Clay telephoned LeMay during the first few days of the airlift and asked if the Air Force had planes that could carry coal. Startled, LeMay replied, "We must have a bad connection. It sounds as if you're asking if we have planes for carrying coal." "Yes," Clay answered, "that's what I said ... Coal." After a pause, the USAFE commander rose to the occasion. "Sure," he vowed. "The Air Force can deliver anything!"³²

The two men discussed the problem face-to-face on 29 June, when LeMay flew a C-47 into Tempelhof to see first-hand what his crews were up against. With all available C-47s flying food, the only way seemed to be to load coal into the bomb bays of B-29s, which were too large to land at Tempelhof, and drop it somewhere in Berlin. The two generals put the Tempelhof base commander, Colonel Henry W. Dorr, to work finding a site. He picked a former training area in the French sector. An experiment in dropping coal from B-29s succeeded only in pulverizing the coal when it hit the ground and covering the observing dignitaries with black dust.³³

A less dramatic means of delivery had to be found, and one was. Someone realized there were half a million surplus GI duffel bags left over from the war. They would do. So early on the afternoon of 7 July the first C-54 landed in Berlin loaded with 200 duffel bags filled with coal. The RAF lifted its first coal 19 July, also in duffels. This worked but there were problems to be solved. Each sack was supposed to weigh 110 pounds (plus or minus four pounds), but random samples found a range in weight from 80 to 150 pounds. To control this, both air forces made frequent checks. Despite the packaging, coal dust was a nearly insoluble problem. It collected everywhere, sometimes ankle deep, and it clogged flight instruments. Oddly enough, the combination of dust from the airlift's two main cargoes, coal and flour, was even more dangerous than coal dust alone. It was highly combustible and corroded control cables, electrical circuits, switches, and connectors. Covering the floor with tarps or wetting the coal added weight and brought little relief. Sliding one end of a rubber tube out the

³¹*London Times*, 2 Jul 48; "Operation Vittles," *TI&E Bulletin*, 3:34 (22 Aug 48), p 21, encl to Tab A, Personnel Div, *Hist of USAFE, Jan 49*; Percy, "Berlin Airlift," 204; Ann and John Tusa, *The Berlin Airlift* (New York, 1989), 310; BAFO Rpt, 16, 36, 261-62; "USAFE and the Berlin Airlift, 1948," 167.

³²CSGID to CINCAL, *et al.*, 011929Z Jul 48, sect. 17, CCS 381 (7-20-43), RG 218, NA; LeMay and Kantor, *Mission with LeMay*, 415; Murphy, *Diplomat among Warriors*, 318.

³³"USAFE and the Berlin Airlift, 1948," 17; Frank L. Howley, *Berlin Command* (New York, 1950), 209-10. Other tests using C-47s were equally discouraging. Gallogly Rpt, 62-63. See also BAFO Rpt, 307-08; Mins of Air Ministry Mtg, 27 Jul 48, AIR 20/6891, PRO.

porthole so the slipstream could suck dust out of the cabin was promising in theory but only partly successful in practice. The RAF coated cabin floors with plastic sealant, but that protected only the compartments underneath the main cabin, not the cabin or cockpit. Only constant, thorough sweeping did much good. In Berlin, women with brooms swept the cabin as the plane taxied out for departure, climbed down the ladder with their burlap bags of precious coal, and boarded a truck that would take them back to the unloading ramp for a repeat performance. Before the airlift was over they saved 500 tons of coal that otherwise would have been lost, and for the city that meant 50 “free” planeloads. Crews eager to cut their turn-around times did not let the sweepers linger, though, and the planes soon showed it.³⁴



Coal was Berlin’s lifeline, and every pound was precious. To collect it and to control coal dust in the cabin, Berlin women routinely swept out the airplanes. Here three of them clean the area beneath a C-54 cargo hatch, collecting coal that fell out during unloading.

With coal deliveries added and other requirements refined, the daily tonnage goal climbed from 2,000 tons to 3,200 on 8 July and 4,371 short tons five days later.

³⁴Max Charles, *Berlin Blockade* (London, 1959), 61; Donovan, *Bridge*, 131; Davison, *Berlin Blockade*, 124; Smith interim Rpt, 30 Jul, microfilm reel C5113, AFHRA; Barker, *Berlin Air Lift*, 34; Lay, “Berlin Air Lift,” 1: 21; Rpt, CALTF, “Preliminary Analysis of Lessons Learned,” Jun 49, 30-31, 37, microfilm reel C5113, AFHRA; William H. Tunner, *Over the Hump* (New York, 1964), 205; BAFO Rpt, 69; Percy, “Berlin Airlift,” 203-04; Downie, “Long Ranger,” 20; “USAFE and the Berlin Airlift, 1948,” 187.

Struggling to cope with the growing demand, USAFE on 15 July diverted to Wiesbaden 66 C-47s that had been earmarked for transfer to Turkey. Tonnage targets continued to grow. By the end of July, planners had rounded up the total to 4,500 tons.³⁵ The amounts and diversity of the cargoes Berlin needed staggered the imagination. Coal alone was nearly 2,000 tons; food around 1,300: 646 tons of flour, 180 tons of dehydrated potatoes, 144 tons of vegetables, 125 tons of cereals, 109 tons of meat and fish, 85 tons of sugar, 64 tons of fat. And the list went on: salt, 19 tons; coffee, 11; dehydrated milk, 5; yeast, 3. Much of the food came from Germany, but not all of it. Some wheat flour came from the United States, while rye flour came from Hungary and Denmark. Italy provided rice; Norway, fish. The dehydrated milk came from Holland, Belgium, Denmark, and Switzerland, while Germany, the US, Britain, and Holland provided the dry potatoes. Among the tons and tons of bulk cargoes, there were small but vital consignments for special constituencies. The airlift shipped in 13 tons of newsprint a day so West Berlin newspapers could fight Soviet propaganda. Peter Bucher, 19 months old and suffering from a rare digestive ailment, needed five bunches of bananas a week to stay alive.³⁶ To deliver it all, LeMay asked Washington for 50 more C-54s.³⁷

Expansion already had produced problems. The bases in Germany were unprepared for the demands suddenly placed upon them. Airfields were short of everything from runway lights to warehouses. USAFE's aviation fuel consumption for July was over three times that of June, up from 1.3 million gallons to 4.5, and its consumption of lubricants nearly tripled, from 24,000 to 70,000 gallons. BAFO typically had used half a million gallons of fuel a month, on average; now it needed that much every four days. The supply system could not provide enough gas, and storage tanks in western Germany began to run dry. Airlift planes would have been grounded in July had not three large ocean-going tankers been diverted to German ports and their cargoes shipped post-haste to airlift bases.³⁸

Other problems were not so easily solved. The Yorks, Tudors, C-47s, and C-54s had been designed with long flights in mind, and the frequent take-offs and landings

³⁵Memo, 8 Jul 48, AIR 20/7804, PRO; Msg, BTB to EXFOR, 14 Jul 48, AIR 29/7804, PRO; *Hist of USAFE, Jul 48*, 14; Hays to Bradley, 17 Jul 48, P&O 092 case 137/69, RG 319, NA; Murphy to Marshall 1834, 27 Jul 48, 740.00119 Control (Germany)/7-2748, RG 59, NA. The simple word "ton" caused no end of confusion during the airlift. To Americans, it meant 2,000 pounds, while Europeans thought in terms of 1,000 kilograms, or 2,204.6 pounds. Airlifters had to be careful to specify which ton they had in mind, because the difference could be important. Air Commodore Waite's understanding at the end of August was that the 4,500-ton goal was in *metric* tons, but Clay's staff had mistakenly briefed their chief that Berlin's daily requirement was 4,500 *short* tons. The general had then publicly committed himself to the lower figure, which understated Berlin's needs by 10 percent. Waite to Herbert, 31 Aug 48, AIR 20/7804, PRO.

³⁶Harris *et al.*, "Special Study," 13-16; *Hist of USAFE, Apr 49*, 52; "Operation Vittles," *TI&E Bulletin*, 3:34 (22 Aug 48), p 19, encl to Tab A, Personnel Division, *Hist of USAFE, Jan 49*.

³⁷Smith, ed., *Clay Papers*, 2: 730.

³⁸*Hist of USAFE, Dec 48*, Appendix XII; BAFO Rpt, 52; "USAFE Summary," 88.

under heavy loads were as wearing on airframes as they were on crews. Planes were landing and taking off at about five times the rate per flying hour they were designed for. To make matters worse, both air forces allowed planes to land at higher gross weights, up to 5,000 pounds more than normal, in order to deliver as many supplies as possible. This put unusual stress on landing gear, brakes, and tires. RAF Transport Command saw demand for tires and brake assemblies quadruple as soon as the airlift started, and the situation was much the same on the American side. The flights to Berlin also overworked engines. Given the short time at cruising speed, engines spent an unusually high percentage of operating time at high power settings. Idling on the ground for an average of 30 minutes waiting to take off also wore out seals, gaskets, and wiring more quickly than normal. The summer heat did not help.³⁹

With Dakotas unfamiliar sights in BAFO and C-54s an even greater rarity in USAFE, the two commands' mechanics lacked the spare parts, technical manuals, equipment, and know-how to keep the unfamiliar cargo planes in the air. USAFE had no consumption data on C-54 parts (there were a quarter-million of them). Even if it did, the information would have been little help, because consumption tables were based on "normal" usage of two to three hours a day, not the eight to ten Vittles planes were flying. In short, Vittles and Plainfare confronted American and British logisticians with unknown and unknowable requirements. Answers would come only through trial, error, and experience. At first, assuming the operation would be short, squadrons were told to bring 30 days' supplies and tried to make do. That worked, of course, for only a little while. At the start, there were no C-54 parts in Europe, except for a small quantity at the Military Air Transport Service (MATs) transient maintenance facility at Rhein-Main. To complicate matters, there were several types of C-54s, and many parts were not interchangeable. There were, for example, two different types of engines (Pratt and Whitney R-2000-9s and R-2000-11s), while right-hand and left-hand engines differed from one another. For a time there were no spare starters at Tempelhof; to get C-54s with defective starters back in the air, mechanics had to start one engine with bungee cord. Shortages of trained supply clerks meant some parts that were on hand could not be found. In desperation, USAFE bought some C-54 parts from the Douglas Aircraft Corporation's office in Brussels, Belgium, or cannibalized one aircraft to keep others flying. USAFE was better able to support its C-47s, but here, too, consumption far exceeded normal. The depot at Erding issued its 180-day stock of windshield wipers in twelve days, and then there were none.⁴⁰

The maintenance system also staggered under unprecedented demands. There were not enough trained mechanics, and few repair facilities. There were no nose docks at Wiesbaden or Rhein-Main, and engine-buildup facilities had to be built at the latter base. Ground crews welded steel bed frames together to make maintenance stands.

³⁹BAFO Rpt, 185, 312; "USAFE Summary," 92; Mins of Air Ministry Mtg, 13 Aug 48, AIR 20/6891, PRO.

⁴⁰BAFO Rpt, 49-50, 316-18; Mins, AM Mtg, 13 Aug 48, AIR 20/6891, PRO; "USAFE and the Berlin Airlift, 1948," 105-08; Harris *et al.*, "Special Study," 98; "Preliminary Analysis," 40; "USAFE Summary," 74-79, 92; Lowell Bennett, *Berlin Bastion* (Frankfurt, 1951), 104.

One plane flew for three days without a door.⁴¹ Planes flew round the clock, but poor lighting at Rhein-Main and Wiesbaden hampered maintenance at night. Although not a serious a problem in the summer, with its short hours of darkness, its dimensions increased as summer changed to autumn and the nights grew longer. The prospects for lighting Wiesbaden's ramp were good, but there was no easy solution at Rhein-Main, which had no ramp and where planes had to load at widely separated hardstands. US Army drivers jury-rigged lamps atop their cabs and shone them into the trailer bed.⁴²

To move parts that were available, USAFE organized an overnight express train that ran each night from its depot at Erding to Rhein-Main and Wiesbaden. Return runs moved parts needing repair from the airlift bases to Erding and the other large USAFE depot in Bavaria, Oberpfaffenhofen. Erding specialized in sheet metal repair and repairing aircraft instruments. Later, when C-54s moved north into the British zone, trains and C-47s shuttled parts between Rhein-Main and Fassberg.⁴³ Looking beyond these short-term fixes, USAFE considered how it could support its growing fleet of C-54s for the indefinite future. Each Skymaster was supposed to be overhauled after every 200 hours in the air. To do this work, USAFE planned to reopen Burtonwood, a large wartime depot in England, near Liverpool. That would take time, and for the time being USAFE's depot at Oberpfaffenhofen would handle the assignment, with a goal of five planes a day. Oberpfaffenhofen began this work 7 August. After 1,000 flying hours, the C-54s were to be sent back to the States for a major overhaul.⁴⁴

General Smith was also looking at ways to make Vittles more efficient. On 9 July, he made Rhein-Main the center for C-54 supply support. The base would repair C-54 engines and distribute spare parts to other bases. Four days later, the base began sending the Air Materiel Command in the US a daily consolidated list of C-54 requisitions that USAFE could not fill. On 12 July, Smith decided to make Rhein-Main an all-C-54 base, moving the C-47s to Wiesbaden. Accordingly, Rhein-Main launched its last C-47 Vittles flight 3 August. In another move to standardize, Smith decided on 26 July to have Rhein-Main concentrate on food and coal for Berliners, while Wiesbaden's C-47s handled all other cargo: supplies for the garrisons, industrial items, and so on.⁴⁵

The rapid influx had implications reaching well beyond the maintenance and supply systems. People needed care and support just like their airplanes did. Mess halls were small and short-handed. Post exchanges, laundries, snack bars, movie theaters and recreational facilities, if they existed at all, were often closed at the only times men working at night could get to them. The biggest problem, though, was

⁴¹"USAFE and the Berlin Airlift, 1948," 91-92; Bennett, *Berlin Bastion*, 117.

⁴²"USAFE and the Berlin Airlift, 1948," 179; Gallogly Rpt, 119; BAFO Rpt, 121.

⁴³"USAFE and the Berlin Airlift, 1948," 91, 105, 110-14.

⁴⁴*Ibid.*, 95; "USAFE and the Berlin Airlift, 1949," 8-9.

⁴⁵"USAFE and the Berlin Airlift, 1948," 33-35, 62, 93, 123-24.

housing. Quarters were so crowded it was common for two or three pilots to share the same bed, sleeping in shifts. With schedules erratic, it was impossible to separate crews flying at night from those flying days. People were constantly coming or going inside barracks and aircraft engines were roaring round-the-clock outside, making uninterrupted sleep virtually impossible. Heat, lighting, and furnishings were poor, and there were chronic shortages of hot water. Water pressure was so low at Wiesbaden that men in barracks on the second floor could not flush their toilets. Some crews arriving in July could not find a bed and lived for a while in the loft of a barn. To free up space, the 18th Infantry Regiment moved from Frankfurt to Mannheim, but the shortages continued. Men billeted off-base escaped the engine noise but had to rely on an overworked transportation system to move them to and from the airfield, which stretched the work day still further.⁴⁶

By late July, everyone was tired. People had put in long hours day after day, because the job required it, and people could do that for only so long. That limit was beginning to be reached—and passed. For many officers, their airlift duty was in addition to their ordinary jobs; some flew for nine hours only to face 18 hours of ground duty before they could get some rest. Because of confused scheduling, weather, and other delays, many hours were wasted waiting between flights. “Things were pretty confused,” Captain Hugo Krenek remembered. “After a while they seemed less confused and just plain rugged. Then a little later, things weren’t rugged any more; instead we all just seemed to be exhausted. I flew 158 hours the first month and sixty-eight percent of the flights were on instruments. Pretty soon I said to myself, ‘Boy, you aren’t grouchy. You’re just about on the verge of being done in.’” Lieutenant Robert Miller, a flight surgeon, thought “a dangerous level” had been reached in his unit by mid-July. A couple of crews reported “both the pilot and co-pilot had dozed off, only to be awakened by the changing attitude of the plane.” RAF crews were in similar straits, often working 18-hour days. Wildly fluctuating workdays were as tiring as long ones; there was no consistent schedule. A survey of York and Dakota crews in July and August found that 90 percent of them reported being fatigued (as distinguished from merely tired) due to lack of sleep, wasted time before and between flights, and poor living conditions. Aircrew lives depended on the alertness and morale of ground crews, so poor living and working conditions for mechanics were issues just as serious as those facing the men in the cockpits.⁴⁷

The pace was just as hectic away from the airfields, as the British and American armies worked to collect cargoes for the growing airlift fleets. Through July, the US Army provided commodities to Rhein-Main and Wiesbaden, moving food by rail from depots at the US seaport of Bremerhaven. Coal came from the Ruhr by train. Once at rail yards near Frankfurt, cargoes were loaded onto trucks and delivered to the air bases. The goal was to stay one day ahead of the Air Force at all times. That was a challenge: on Tuesday, 29 June, there was not enough freight available in Army stocks to meet

⁴⁶*Hist of USAFE, Jul 48* (Air Surgeon Rpt); Harry G. Moseley, “Medical History of the Berlin Airlift,” *United States Armed Forces Medical Journal*, 1:11 (Nov 50): 1253-57; Halvorsen oral history interview, 1-3, 13 May 88, MAC/HO; Lay, “Berlin Air Lift,” 1: 41.

⁴⁷Davison, *Berlin Blockade*, 129; Fisher, “Berlin Airlift,” 6-8; BAFO Rpt, 191-92, 473-85.

requirements through Friday. The major problem in the first week was getting enough food from German sources to keep the planes full. The Bizonal Economic Council (an Anglo-American military government committee to coordinate the economies of their two zones) was responsible but could not respond quickly enough, so the Transportation Division at European Command took over the job for the first five weeks. Throughout July, "Shiploads and trainloads of food were commandeered by Transportation Corps officials to keep the lift going."⁴⁸ The council took over 28 July. The British faced similar problems. Three trains might arrive at Wunstorf one day and none the next. The line to the base was a single set of tracks, so only one train could be unloaded at a time.⁴⁹



As one observer pointed out, nearly every pound of cargo delivered during the Berlin Airlift traveled part of the way on a man's back. Here an unloading crew manhandles bags of flour while a US soldier inventories the cargo.

To provide a single voice defining requirements, the British and American commandants in Berlin established an Air Lift Staff Committee in mid-July. It would pass requirements to the Bizonal Economic Council, which would obtain supplies, allocate them between the two air forces, and move them to railheads near the airfields. The two armies moved cargoes from the railheads to the bases, delivered them to planeside, and loaded them aboard aircraft (the latter under air force supervision). An airman, called the "flight checker" or "traffic technician," directed the army truck as it

⁴⁸"USAFE and the Berlin Airlift, 1948," 20-21; Lay, 1: 12-13.

⁴⁹Tusa and Tusa, *Berlin Airlift*, 243.

backed up to the plane. He supervised the loading and distribution within the plane, as well as tie-down and manifesting. The pilot then cross-checked to ensure the load was properly distributed and tied down.⁵⁰

We tend to think of an airlift as a “high-tech” operation, so it helps to recall, as historian Elizabeth Lay put it, that nearly every pound of cargo moved “part of the way on a man’s back.”⁵¹ Six-man teams at railheads transferred cargoes from trains to trucks, with a goal of one ton per man per hour. Ten-man crews loaded planes. Emphasis in Berlin was on quick turns, so unloading crews were larger, consisting of twelve men. Six clambered aboard the plane and slid the bags down chutes, while the other six stacked bags in the truck. Tin chutes, used at first, became dented and warped; wooden ones proved hardier. Labor was mostly East European refugees and Germans. The first labor unit involved at Rhein-Main was the 4060th Labor Service Company



Airlifters used GI duffel bags to carry coal and a simple wooden chute to slide the bags from the airplanes into waiting trucks.

(Lithuanian), paired with the US Army’s 38th Labor Supervision Company. It began work 22 June and was joined by the 8958th Labor Service Company (Polish) on 30 June. In Berlin, the city government provided laborers, 600 split initially into three shifts. By the end of summer there were 2,000 men working at Tempelhof, divided into four shifts, unloading 25-30 aircraft an hour. At first, loading a C-47 could take up

⁵⁰Lay, “Berlin Air Lift,” 1: 13-19.

⁵¹*Ibid.*, 1: 21.

to five hours. Soon the average had dropped to ten minutes. Unloading at Tempelhof took 8-45 minutes, with 30 minutes as the average. Some cargoes were harder to deal with than others. The French sent 25 tons of fresh vegetables from Mainz to Wiesbaden each morning, creating "a novel loading problem." Dehydrated potatoes saved 720 tons a day, but "lashing this commodity," one official noted, "is like lashing jelly."⁵²

To move cargo, the US Army stationed two truck companies at Rhein-Main and another at Wiesbaden; each company operated 48 trucks and 96 trailers. Drivers worked 12-hour shifts. Keeping the trucks and trailers moving was almost as big a challenge as keeping the planes in the air. Like the C-47s and C-54s they supported, the 10-ton rigs were built for long-distance operations, not short ones, and they were designed for use on good roads. But they now faced short hauls with heavy loads over gravel, dirt, and mud. And like the planes, many were tired veterans from the war. Wear and tear was twice normal for tractors and four times normal for trailers. Standing gear were meant for use on solid surfaces, not dirt, and were intended to bear full loads only briefly. Now trailers were loaded and placed in reserve until tractors retrieved them and took them to an aircraft. Trailer beds warped from frequent coupling and uncoupling. Brakes, axles, and clutches had to be replaced at an unprecedented rate. To keep the fleet rolling, the 559th Ordnance Maintenance Company worked seven days a week, repairing trucks and trailers and rebuilding one truck engine a day.⁵³

All this effort risked being wasted, as Tempelhof's PSP runway started disintegrating under the relentless pounding. LeMay sent Lieutenant Colonel Maceo Falco to the base with orders to keep the runway open even if it meant putting "German workers one yard apart on both sides of it." That's about what Falco had to do. He organized work crews of 225 men who swarmed out onto the runway after a plane touched down, beating the mats back into place, filling holes with gravel, then scrambling out of the way as the next plane roared in. While C-54s banged down on the fragile PSP, engineers laid out two sod runways for C-47s, one for take-offs and one for landings. They held up "fairly well" once dry weather set in late in July, until a torrential storm closed them 13 August. Falco recommended construction of a second PSP runway, 5,500 feet long. Work began 8 July and continued 16 hours a day, with women working alongside men. All materials, except brick rubble from Berlin, came from the US and had to be flown in, adding 75-80 tons to the daily tonnage targets. The new runway was ready 12 September. Then work began on a third strip, which opened in late November.⁵⁴

One problem had proved less serious than expected: the Soviets had not made any serious attempts to interfere with the airlift. The *New York Times* reported

⁵²*Ibid.*, 1: 21-24; "USAFE and the Berlin Airlift, 1948," 41; Barker, *Berlin Air Lift*, 34; Note, A. H. Dangerfield, 6 Sep 48, AIR 20/7805, PRO.

⁵³Lay, "Berlin Air Lift," 1: 21-24, 30-32, 43-46; "USAFE and the Berlin Airlift, 1949," 190-94.

⁵⁴"USAFE and the Berlin Airlift, 1948," 209-13; Donovan, *Bridge*, 55-56; Lay, "Berlin Air Lift," 1: 18.



Tempelhof's PSP runway began to come apart under heavy airlift traffic in July 1948. Flight operations and repairs went on simultaneously. Work crews scrambled out onto the runway between planes, filling holes with gravel and pounding PSP planks back into place, then dashed out of the way as the next plane roared in.

extensive Soviet fighter activity in the corridors on 6 and 7 July, as well as some radio jamming, but airlift flights continued.⁵⁵ A few days later Soviet officials alleged airlift pilots were repeatedly violating safety rules and warned that any aircraft outside the corridors would be forced down. They also announced Soviet planes would be flying in the Frankfurt corridor on instruments and without flight plans being filed with the Berlin Air Safety Center. A week later, they issued a similarly vague notice of night flights by Soviet aircraft. A formation of Yak fighters swooped over Gatow at 500 meters on the afternoon of 21 July, triggering a vigorous British protest.⁵⁶

For all the problems and improvisations, there were signs of progress. Smith and Hyde had begun to impose order on the airlift, looking for ways to make it more efficient. They streamlined communications procedures. Smith, for example, devised the well-known system of aircraft call signs. C-54s were "Big," and C-47s were "Little"; eastbound planes were "Easy," westbound ones "Willie." So just hearing "This is Big Willie 5219" told everyone it was a westbound C-54.⁵⁷ The two air forces

⁵⁵*New York Times*, 7 Jul 48, p 2, and *ibid.*, 8 Jul 48, p 1.

⁵⁶Davison, *Berlin Blockade*, 127, 129; Tusa and Tusa, *Berlin Airlift*, 180; Robertson to Bevin 1422, 22 Jul 48, 70503/C5853, FO 371, PRO.

⁵⁷*Newsweek*, 32:3 (19 Jul 48): 26.

began experimenting with scheduling and air traffic control techniques so that different aircraft types, flying at different speeds, could operate safely in the corridors. They improved existing navigational aids and installed new ones. Smith and Hyde also began studying ideas their successors would receive credit for, such as having each base handle only one cargo. They proposed concentrating the larger US planes at fields in the British zone, which were closer to Berlin, so they could make more trips and deliver more tons each day. They tried to stabilize crew schedules and improve living conditions. Their efforts had begun to show returns: by the end of July, the airlift was averaging 3,000 tons a day.

At first the residents of Berlin, the human reason for all this activity, took little interest in it. They knew the city had about a month's supply of necessities, and they assumed the foreign occupiers would settle their dispute long before stocks ran low. But as summer wore on with no agreement in sight, Berliners began paying close attention to tonnage reports. The noise of engines low overhead, at first annoying, became reassuring, and silent skies worrisome. Then, too, the airlift was a fascinating spectacle. Children liked to go to Tempelhof and watch the big planes land, something that changed the life of an American pilot, Lieutenant Gail S. Halvorsen.

Halvorsen had hitched a ride into the city one summer afternoon to see the sights and walked out to the end of the runway to take pictures of planes on final approach. Some children were standing on the other side of a barbed-wire fence. Some spoke English and began asking him questions about the airlift. What amazed him, though, was "they were more concerned about their freedom than they were the flour" on the planes. "They said they could get along on very little food, anything to preserve their freedom," he recalled for an interviewer years later, still amazed by their spirit. They knew their friends and relatives in East Berlin could not say what they thought or do what they wanted. "They told me that freedom was the most important thing. Sometimes they didn't get enough to eat, they said, but if they lost their freedom they knew they would never get it back. Those kids were really something." As he turned to leave, he realized these Berlin children, who lacked so much, had not begged him for candy like children all around the world had done during the war. He wanted to give them something, but all he had was two sticks of gum. His first thought was he would cause a riot if he handed out so little; on second thought he went ahead, breaking each piece in two and passing them through the wire. "The looks on their faces were unbelievable," he remembered, and there was no fight. "I just stood there with my mouth open." Knowing he could not come back for a long time, he had a brainstorm, promising to drop enough candy and gum from his plane for all of them next day. They asked how they could identify his plane with so many landing at Tempelhof. He told them he would wiggle his wings as he came in to land. Back at Rhein-Main that night, he gathered his weekly candy ration, talked his co-pilot and engineer out of theirs, and made three makeshift parachutes out of handkerchiefs.

As his C-54 swooped in to Tempelhof the next day, he could see the small cluster of expectant children by the fence. He rocked his wings. He had a quick glimpse of the children jumping and cheering as the plane flashed by and the engineer pushed the tiny parachutes out the flare chute. After unloading, Halvorsen and his crew taxied out for take-off. The children were there, "waving three handkerchiefs through the barbed wire. Kids were jumping up and down and waving like mad. I wished they wouldn't do that," he thought, "because somebody might find out what we had done." He was worried it was against the rules and he would get into trouble. But he kept it up for two more weeks. Then his squadron commander called him on the carpet. By then, Major General William H. Tunner had replaced Smith as the airlift commander. Tunner was a stern, no-nonsense perfectionist. He had heard what Halvorsen was doing, and German newspapers had featured the story. Tunner thought it was marvelous publicity, and Halvorsen had permission to go "full speed ahead." He and his fellow pilots did just that, and Operation "Little Vittles" was born. When crowds at Tempelhof grew too large, pilots began dropping all across Berlin, east as well as west. Back in the States, scout troops and wives clubs collected money to buy candy and handkerchiefs, while candy companies made bulk donations, one of ten tons. Halvorsen, known variously as "the Candy Bomber," *der Schokoladenflieger* or "Uncle Wiggly Wings," became a world-famous symbol of the humanitarian essence of the airlift.⁵⁸



The "Candy Bomber," Lieutenant Gail S. Halvorsen, epitomized the humanitarian heart of the airlift. Meeting some Berlin children one day at Tempelhof, he promised to drop candy to them the next day using handkerchiefs as parachutes. The idea spread, and soon pilots were dropping candy all across Berlin, East as well as West.

Hershey bars were not the only bonds to unite pilots and Berliners; tragedy had formed a more solid link. Shortly after 1:00 a.m. on 24 July a C-47 crashed on final approach to Tempelhof, killing Lieutenants Charles King and Robert Stuber. Berliners were deeply touched. Men who had been their enemies three short years ago had died

⁵⁸Halvorsen oral history interview, 13 May 88, MAC/HO; Donovan, *Bridge*, 148-49. Halvorsen's kindness was not unprecedented: RAF crews used handkerchiefs as parachutes to drop candy during a brief airdrop over Holland in the last two weeks of World War II in Europe. Hans Onderwater, *Operation Manna/Chowhound* (Weesp, The Netherlands, 1985), 69. For the ten-ton donation, see Smith, ed., *Clay Papers*, 2: 908.

trying to help them. Their sacrifice must not be wasted, Berliners resolved, and their determination not to give in to Soviet pressure increased. And the more Berliners resisted, the more the airlifters were convinced such people must not be abandoned. Lieutenant Halvorsen denied he and his fellow pilots were heroes. They were just doing their jobs. The Berliners were the true heroes. "They were the ones who went home at night to bombed-out places, ... [the ones] who went home without enough to eat," surrounded by Russian tank armies and living "in the jaws of the tiger all the time."⁵⁹

LeMay had sent his wartime commander, Ira Eaker, an optimistic assessment as early as 10 July. While the situation in many ways reminded him of 1942 in England, when "we were holding on by our fingernails," LeMay was confident "we will slide by this one all right."⁶⁰ Others were less sure. "We are fooling ourselves," Brian Robertson warned London 20 July, "if we imagine that we can stay in Berlin indefinitely in defiance of the Soviet" without going to war.⁶¹ Clay believed the answer lay not in an airlift, but in breaking the blockade with an armed convoy sent along the *autobahn*.⁶² Officials in Washington thought this too reckless. At the same time, they had little faith in the airlift. The US Air Force public relations office did not trumpet Vittles as an Air Force story in the early days. A *US News* reporter telephoned 8 July to ask about the food and coal being flown to Berlin. He was told "this was an Army job" and was referred to the Assistant Secretary of the Army.⁶³ Perhaps the public relations staff was trying to distance the new service from something that appeared an inevitable flop. Under Secretary of the Air Force Cornelius Whitney told the National Security Council 15 July "the Air Staff was firmly convinced that the air operation is doomed to failure." The maximum possible lift by both air forces was 4,000 tons a day, against a need of 5,300 to 8,000 tons. Tempelhof's runway was breaking up, and the current airlift fleet could not be properly maintained. Under Secretary of State Robert Lovett agreed, calling the airlift an "unsatisfactory expedient" that could operate only until October, when bad weather would curtail it. Thus, Secretary Forrestal predicted, "We are facing an October 15 deadline when we will have to face up to the hard decision whether to use convoys." In the meantime, Secretary of State George C. Marshall thought, the Western powers "must pave the way for any possible use of armed convoys by showing that we have exhausted all other ways of solving the problem." Otherwise the American people would not support the use of force when the time came. The airlift at this stage did not appear as the alternative to Clay's convoys but rather a prelude to them.⁶⁴

LeMay's optimistic forecast would prove the more accurate one. The initial period of hurried improvisation was coming to a close, and several changes late in July brought this phase of the airlift to an end. On the British side, Wunstorf was overloaded, so on 18-19 July, the Dakotas moved to Fassberg, a former *Luftwaffe* training base 50 miles south of Hamburg. With this transfer, two-way traffic in the center

⁵⁹Quoted in Mark Arnold-Foster, *Siege of Berlin* (London, 1979), 99-100.

⁶⁰LeMay to Eaker, 10 Jul 48, box B47, LeMay Papers, LOCMD.

⁶¹Robertson to Strang, 20 Jul 48, 70504/C6157, FO 371, PRO.

⁶²Smith, ed., *Clay Papers*, 2: 697, 734-38, 740, 743-46.

⁶³Memo, 8 Jul 48, box 4, Robert Ginsburgh papers, Truman Library.

⁶⁴Memo for the President, 16 Jul 48, box 220, PSF, Truman Papers, Truman Library.

corridor ended. (Incidentally, so did Group Captain Hyde's provisional transport wing. Operational control of Plainfare passed directly to BAFO, exercised through its station commanders at airlift bases.) With the RAF stretched to the limit, London awarded contracts to a variety of civilian carriers.⁶⁵ And there were changes pending on the American side. The Dakotas at Fassberg would not stay there long, for the British and Americans were already discussing stationing C-54s there. The move offered obvious advantages. The base was an hour's flying time closer to Berlin than Frankfurt, which would allow the C-54s to make more trips per day. Air Commodore Reginald N. Waite, airlift coordinator for the British commandant in Berlin, estimated the airlift was losing 262 tons every day the move to Fassberg was delayed.⁶⁶

The Americans needed more bases because the National Security Council decided on 22 July to send 72 more C-54s to Germany, boosting the total to 126. The decision reflected something of a reversal on the part of the US Air Force. In contrast with Whitney's gloomy forecast of the week before, the Air Force Chief of Staff, General Hoyt S. Vandenberg, now wanted to give LeMay and Clay more than the 50 C-54s they had asked for. Fifty would be "hardly economical." Instead, Vandenberg contended, "If we decide this operation is going on for some time, the Air Force would prefer that we go in wholeheartedly. If we do, Berlin can be supplied. The decision must be made as soon as possible," he continued. Engineer supplies would have to be flown in to build a third airfield in Berlin, Burtonwood opened, and additional mechanics sent to Germany. With a third airfield in Berlin and every possible C-54 committed to the airlift, Vandenberg thought the airlift could deliver up to 8,000 tons a day. The council endorsed building the new airfield, but it postponed a decision on Vandenberg's call for an all-out airlift, in order to see how the diplomatic situation developed. As he had the week before, Lovett assumed weather would ground the airlift in October. Therefore, "working back from a deadline of the first of October," he expected the Western powers would have to decide by 15 September "whether we are prepared to go ahead regardless of the consequences."⁶⁷

Thus it would be a mistake to interpret the council's decision as relying on the airlift to defeat the blockade. Western leaders still expected to face in September the ultimate choice between withdrawing from Berlin or possibly starting a war in order to stay. In the meantime, it made sense to expand the airlift and make it as effective as possible, just as it had four weeks earlier. To command this expanded fleet, the Air Staff sent General Tunner, the MATS Deputy Commander for Operations, and a hand-picked task force headquarters. Tunner was perhaps the nation's most experienced airlift officer,

⁶⁵BAFO Rpt, 118, 140, 217, 221.

⁶⁶Waite to Moran, 2 Aug 48, AIR 20/7804, PRO. The British offered the US use of Fassberg, Wunstorf, or Gutersloh on 23 July. "USAFE and the Berlin Airlift, 1948," 34-35.

⁶⁷Memo for the President, 23 Jul 48, box 220, PSF, Truman Papers, Truman Library. Lovett repeated his October deadline in conversations with Canadian ambassador Hume Wrong. Wrong to St. Laurent WA-2088, 20 Jul 48, 7-CA-14(S), Historical Office, Department of External Affairs, Ottawa; and Wrong to St. Laurent WA-2095, 21 Jul 48, W-22-5-G, vol. 119, series 18, RG 2, NAC.

having commanded the Ferrying Division of Air Transport Command from 1942 to 1944 and then having led the famous "Hump" airlift to China in the war's last year.⁶⁸

Tunner clearly had his work cut out for him, because there was no sign of a breakthrough in the diplomatic deadlock with the Soviet Union. The Western powers sent a note to Moscow early in July protesting the blockade, and the Kremlin countered with an angry and polemical denunciation of Western policy in Germany since Potsdam. The Soviets were willing to talk, but only about Germany as a whole, a clear signal the blockade would continue until the West abandoned the London program.⁶⁹ The allies were unwilling to do that, recognizing it would be a catastrophic diplomatic defeat. The United States sent B-29s to Europe (two squadrons to Germany at the end of June, two groups to Britain in mid-July) as a sign of Western resolve. One may doubt they frightened Stalin. Contrary to rumors at the time, the planes did not (and could not) carry atomic bombs, a vital fact that Donald Maclean, a senior official in the British embassy in Washington, doubtless reported to his Russian spymasters.⁷⁰ Both sides settled in for a long siege.

⁶⁸JCS 1907/4 (CSAF to JCS 50339), 23 Jul 48, P&O 092, case 137/91, RG 319, NA. For Tunner's background, see his memoirs, *Over the Hump*.

⁶⁹FRUS, 1948, 2: 950-53, 960-64.

⁷⁰See Sheila Kerr, "The Secret Hotline to Moscow: Donald Maclean and the Berlin Crisis of 1948," in Anne Deighton, ed., *Britain and the First Cold War* (Houndmills and London, 1990), 71-87. For the B-29 deployment, see Walton S. Moody, *Building a Strategic Air Force* (Washington, D.C., 1996), 207-16; Harry R. Borowski, *A Hollow Threat* (Westport, Conn., 1982), 125-28; and Brook to Tedder, 28 Jun 48, AIR 20/7148, PRO. The Chief of the Air Staff, Marshal of the RAF Sir Arthur Tedder, thought the Soviets realized the threat from the B-29s was "not very serious" because of the lack of escort fighters. COS(48)87th Mtg, 28 Jun 48, DEFE 4/14, PRO. The USAF commander in the UK, Major General Leon W. Johnson, recalled visiting Germany early in August with the Secretary of the Air Force and the Air Force Chief of Staff. Clay told Johnson, "We'll have to fight our way into Berlin by October," and, Johnson continued, Secretary Symington and General Vandenberg "told me to go back to England and get ready to go to war." Gen Leon W. Johnson oral history interview, p 28, 14 Apr 65, K239.0512-609, AFHRA.

CHAPTER 3

“I EXPECT YOU TO PRODUCE”

When Tunner arrived at Wiesbaden on 28 July, he reported immediately to his new boss, Curtis LeMay. The USAFE Commander wasted little time on pleasantries or a complicated discussion of the mission. “I expect you to produce,” he told Tunner. “I intend to,” was Tunner’s equally terse reply, and he set to work organizing his headquarters in a rundown apartment house at Taunusstraße 11 in downtown Wiesbaden.¹ One of the first things to do was define the mission as precisely as possible. How many planes were needed to meet all of Berlin’s requirements? Sometime during Tunner’s first week in Germany, LeMay called Tunner’s chief of staff, Colonel Theodore Ross Milton, into his office, sat him down at a coffee table, handed him a slide rule and pad of paper, and ordered him to produce *The Answer*. As Milton described it later, it was all very casual, with some foreign officers dropping by for a chat with LeMay while Milton worked in a corner, the fate of over two million people resting on his slide rule. He tossed in “some weather factors and various other guesses,” he recalled, and came up with a figure of 225 C-54s. Would the Air Force act on his estimate? It hardly seemed likely, because to do so the United States would have to commit virtually its entire air cargo fleet, and LeMay had informed Washington in mid-July that the most he could operate for the time being, given weather and Tempelhof’s capacity, was 139 Skymasters.²

Tunner believed he had a good grasp of the situation after only a few days. “The key to the whole problem is big airplanes and lots of them,” he wrote the MATS commander, Major General Laurence S. Kuter, 3 August. If he could get yet another 50 C-54s, he could withdraw all C-47s, creating a “much cleaner, simpler, and more efficient operation.” Three days later, he reported “the whole problem is pretty well reducible to certain essential denominators and our job now is to streamline each of these denominators and find what corners we can cut.” He singled out three that would receive concentrated attention over the next few weeks: reducing turn-around time in Berlin, moving three C-54 squadrons to Fassberg, and creating a unified command for

¹Jackson, *Berlin Airlift*, 67; Tunner, *Over the Hump*, 166.

²Theodore Milton oral history interview, 5 Dec 75, CUOH; T. R. Milton, “The Berlin Airlift,” *Air Force* (Jun 78): 60-61. Tunner informed the MATS commander, General Kuter, on 3 August of the estimate that 225 C-54s were needed. Tunner to Kuter, 3 Aug 48, AMC/HO. For LeMay’s estimate, see Bradley to Royall, 17 Jul 48, CD 6-2-9, RG 330, NA.

the British and American efforts.³ The late summer would be a time of consolidation and preparation for what everyone saw as the acid test: winter.

A business executive whose guide was Frederick Taylor's theories of "scientific management," Tunner regarded the dashing derring-do of the stereotypical aviator as the source of many of the airlift's problems. The press might gush about pilots working until they dropped from exhaustion, or staff officers taking the afternoon off to fly loads of coal to Berlin, "but successful operations are not built on such methods," he declared flatly.⁴ He seemed to believe LeMay and Smith operated this way by choice, because they were "bomber generals" who did not understand airlift, when in truth they were driven by necessity. They had had to respond instantly with inadequate resources to unprecedented demands, and they had done what they could to impose order and stability on the airlift. Tunner had the advantage of building on what they had accomplished. He brought to the task a firm belief in regimentation and attention to detail. Motion-study engineers analyzed every aspect of the airlift, from the Army's gathering of supplies in western Germany to its distribution of them in Berlin, and once these experts found the most efficient way to complete a particular task, Tunner put it into effect throughout his command. The airlift's goals were humanitarian, but Tunner's methods were—because they had to be—ruthlessly mechanical. Realizing well-intentioned heroics and uncoordinated individual efforts were not enough, he set out to reduce every aspect of the airlift to a monotonous routine and everyone involved in it to cogs in a machine. There was no room in Tunner's ideal airlift for individuality. He hoped to produce a "steady, even rhythm with hundreds of airplanes doing exactly the same thing every hour, day and night, at the same persistent beat."⁵

He began by tackling the first of the three bottlenecks he outlined to Kuter, the long turn-around times at Tempelhof, which he called one of the most, "if not *the* most vital factor" in the airlift's success.⁶ On the average, planes took off from the Berlin airfield 75 minutes after they landed there, even though it took less than 20 to unload. Crews had to check in at the operations office for clearance for their return flights and weather information, then they adjourned to an adjoining snack bar for a break. Tunner stopped that on his third day as commander, ordering pilots to stay with their planes. An operations officer came to them with their clearances, followed by a weather officer with the latest forecast, and then a third jeep would pull up, equipped as a snack bar, bringing the essential coffee and doughnuts. Turn-around times dropped to 30 minutes.⁷ Nothing was too small to escape Tunner's attention. On 9 August, he directed that crews leave their planes by a forward hatch so as not to interfere with the unloading crew in the main cabin. Check pilots were to ensure the cargo door was open by the time the plane reached its parking spot. Color-coded panels displayed as the

³Tunner to Kuter, 3, 6, and 16 Aug 48, AMC/HO.

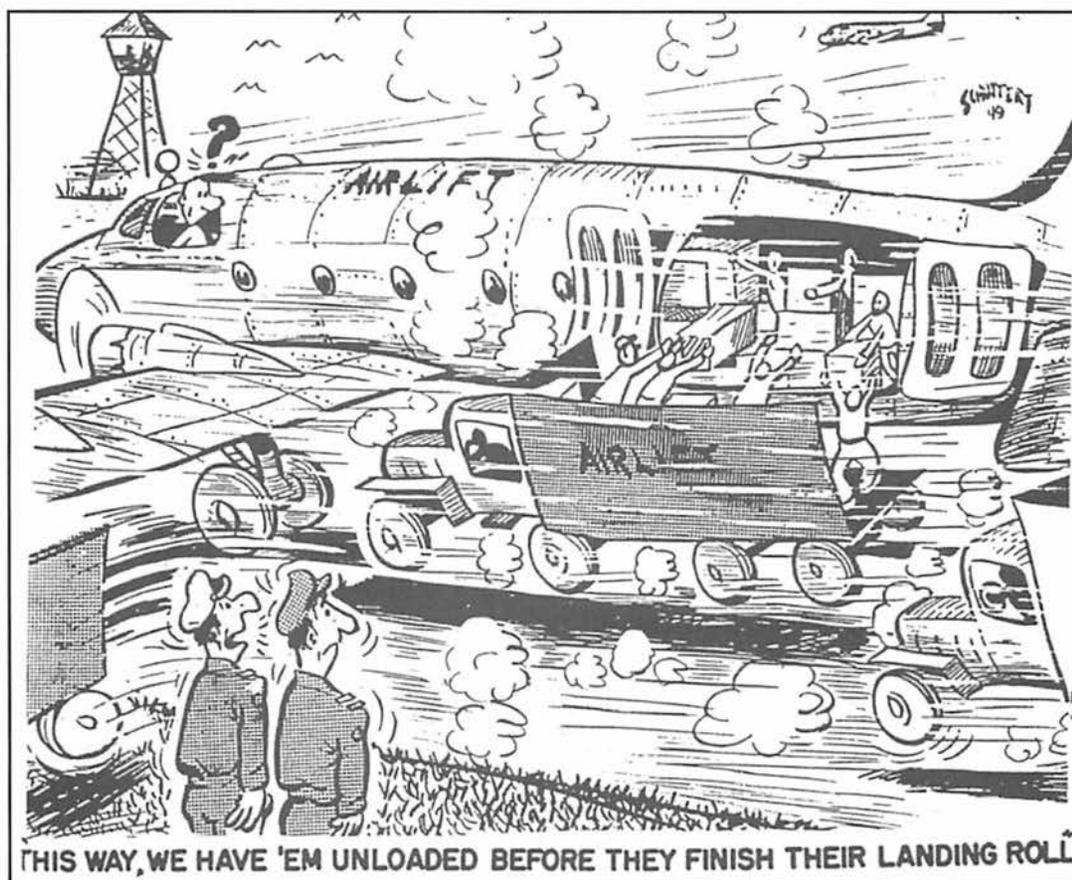
⁴Tunner, *Over the Hump*, 160.

⁵Tunner speech, Dayton, Ohio, n.d., folder 234, Booton Herndon Papers, University of Missouri Library, Columbia, Mo.

⁶Tunner speech, 3 Jun 52, folder 235, Herndon Papers.

⁷Tunner to Kuter, 3 and 6 Aug 48, AMC/HO; Tunner, *Over the Hump*, 170-71.

plane taxied in told ground crews whether it needed fuel or oil, whether it was empty or carried cargo. Loading cargo for shipment out of Berlin (which airlifters called “back-loading”) inevitably extended turn-around times, so Tunner tried to limit this as much as possible, restricting it to daylight hours only and using the smaller C-47s whenever he could, so as not to delay the more valuable C-54s. Later, the RAF all but monopolized outbound traffic in passengers. Whenever possible, loading crews in Berlin put awkward freight in aircraft that needed minor repairs (that is, ones that would be delayed when they returned to western Germany anyway).⁸



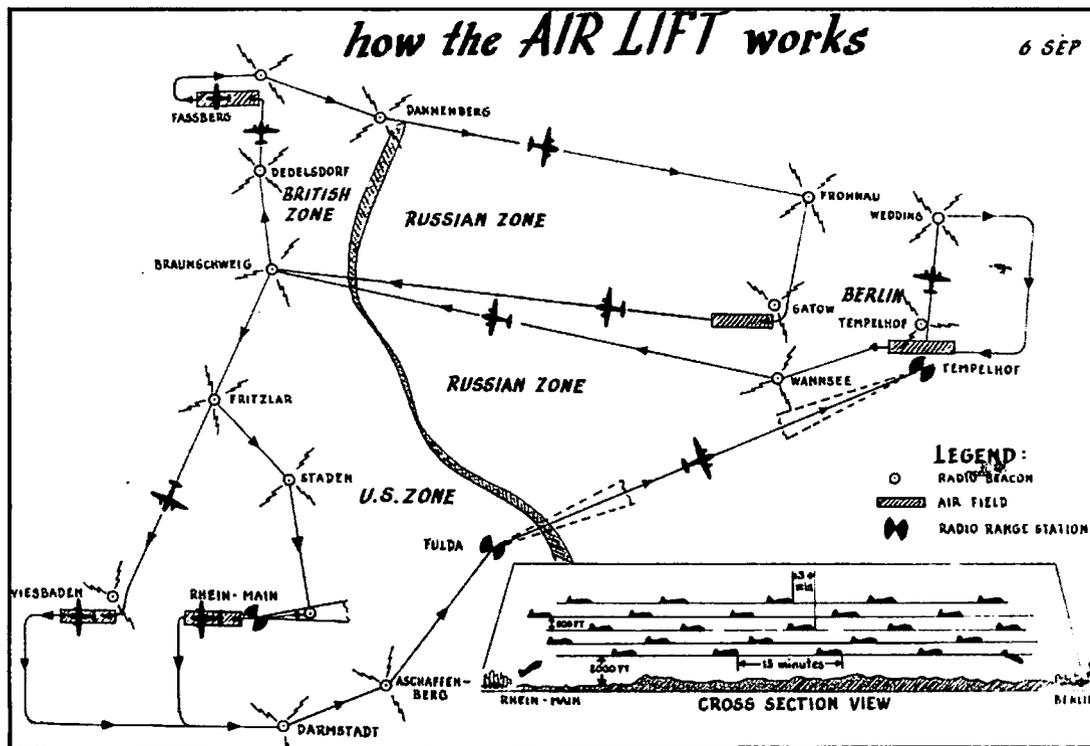
General Tunner sought to save every second possible in all aspects of the airlift. Here *Task Force Times* cartoonist Jake Schuffert pokes fun at time saving pushed to its ultimate limit. (*Task Force Times*, 3 March 1949)

Haste sometimes made waste, though. One crew was in such a hurry that they slammed the doors and taxied out to the end of the runway at Rhein-Main one day with the loading crew still on board. (In another version of this story, or perhaps a separate incident, a crew supposedly took off from Tempelhof with the six-man unloading crew

⁸“USAFE and the Berlin Airlift, 1948,” 73-75, 78; Collier, *Bridge*, 82; Gallogly Rpt, 16-17; BAFO Rpt 155, 174.

still aboard.) A US diplomat's plane landed at Wiesbaden late in the summer for fuel. When he and the crew returned half an hour later, they found their C-47 ready to go, loaded with three tons of flour.⁹ The RAF was not immune to such misadventures. One Dakota at Wunstorf was mistakenly double-loaded, receiving a cargo intended for a York. A dispatcher recalled everyone could sense as soon as the plane started its take-off run that "all was not well. It was with great relief that we saw it claw its way over the perimeter fence." Once people on the ground discovered what had happened, they ordered the plane to return, but the pilot not so politely insisted on continuing to Gatow, where, he commented, "She landed a bit heavy, you know."¹⁰

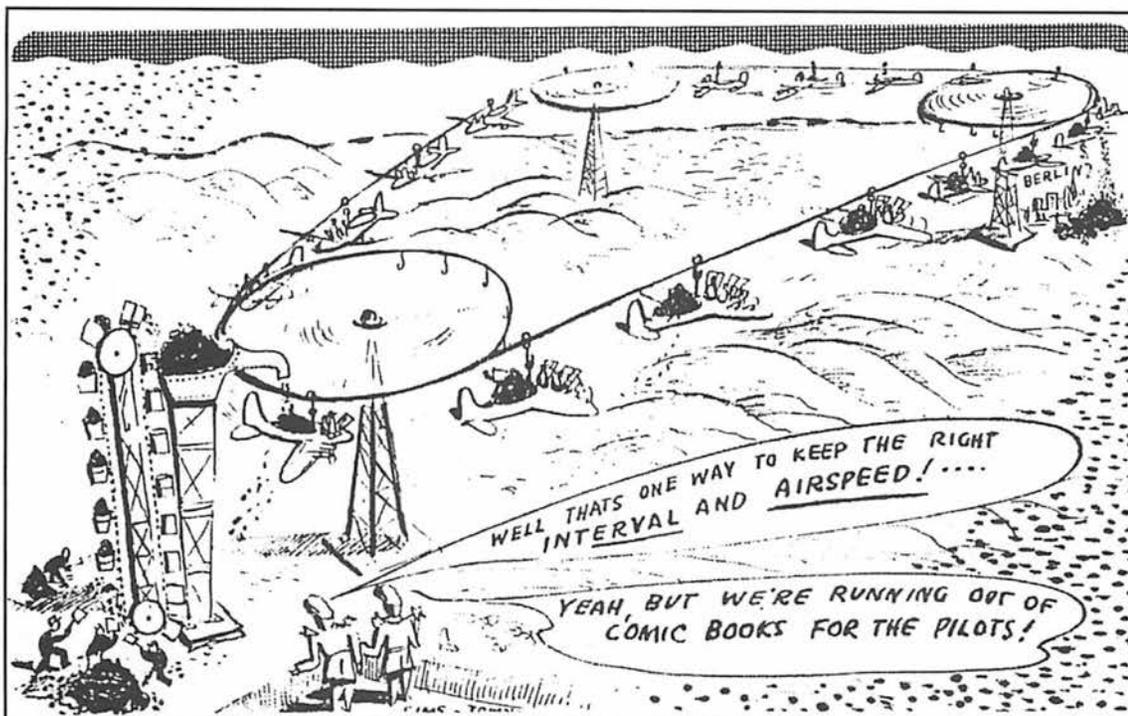
The effort to save time produced one of Tunner's best-known changes. He ended the standard procedure of "stacking" planes trying to land in bad weather. If a plane missed its approach into Berlin, it did not go into a holding pattern. That would delay aircraft behind it, so it flew out the central corridor to start over again. The change resulted from one of the most famous episodes in the airlift, Black Friday, the thirteenth of August.



A September 1948 schematic shows the routes flown by US aircraft and the important role played by radio beacons and other navigational aids.

⁹For the unwilling passenger stories, cf. Gerald Harty, "The Airlift Soars On," *Bee-Hive*, 24:3 (Summer 1949): 11-17, and Bennett, *Berlin Bastion*, 221. For the diplomat's C-47, see *TFT*, 14 Sep 48, and W. Phillips Davison, "The Human Side of the Berlin Airlift," *Air University Review*, 10:3 (Fall 1958): 65.

¹⁰Pearcy, "Berlin Airlift," 204; Barker, *Berlin Air Lift*, 28.



The *Task Force Times* liked to feature cartoons with fanciful ideas for making the airlift more efficient. This one satirizes the precise air traffic flow to and from Berlin Tunner prized so highly. (*Task Force Times*, 10 September 1948)

The weather that day was bad, and at Tempelhof it grew worse. Radar could not penetrate the driving rain that suddenly swept over the field, and controllers in the tower could not see the runway. One plane overshot the narrow strip of PSP and crashed, "exploding into a fireball as the crew scrambled clear." The next plane also landed long, braked hard and blew two tires. Another dropped out of the clouds onto the new concrete runway, still under construction, and ground-looped, damaging its landing gear and one wing. Controllers started stacking planes until they could come in safely. Soon nearly two dozen planes were circling above Berlin in thick cloud, with more arriving every few minutes. They had only the limited room of the Berlin Control Zone in which to maneuver. The Russians might open fire on them if they strayed outside. The Tempelhof tower also held unloaded C-54s on the ground, fearing mid-air collisions if they let them take off. The entire US lift stumbled to a halt, right before Tunner's eyes, because he was in the stack, on his way to Berlin for a small ceremony touting how smooth and efficient the airlift had become. As he listened to the radio calls from anxious pilots trying to find out what was going on, he could hear his operation disintegrating around him, and he was furious. At that moment, he confessed later, "I'd have snapped my grandmother's head off." He ordered all the planes but his back out the central corridor. Once on the ground, he set to work to make sure this never happened again. He not only issued instructions to ban stacks, he also pressed Washington to send him the best air

traffic controllers it could find. In short order nineteen of the Civil Aeronautics Administration's finest were on their way to Germany.¹¹

The heart of Tunner's plan was rigid air traffic control. Each flight was prescribed in strict detail well in advance, and the pilot who deviated to the slightest degree soon learned why Tunner's nickname was "Willy the Whip." He changed General Smith's procedure of flying planes at five different altitudes, using three and eventually two, because fewer operating altitudes simplified approaches and descents into Berlin.¹² On 7 August his headquarters instituted a precise set of procedures that went beyond those that Smith had originally established. The traffic control center at Rhein-Main controlled all flights originating at either Wiesbaden or Rhein-Main. Part of the task force, the center operated under rules laid down by Tunner and gave priority to his aircraft. At take-off, each pilot received the numbers of the three airplanes ahead of him and the two behind, so he knew his exact location in the flow. Every aircraft took off at a precise time and flew an exact pattern at a fixed altitude and rate of speed. All planes flew under instrument flight rules regardless of the weather. The first way station for both American bases was the beacon at Darmstadt. Planes from Rhein-Main passed it at 900 feet, turned left and began climbing to their assigned altitude. Planes from Wiesbaden passed Darmstadt above the Rhein-Main flow at 4,000 feet. The integrated stream flew on to Aschaffenburg, turning at the beacon there for the Fulda range at the mouth of the southern corridor. Approaching this landmark, each pilot listened carefully to the planes ahead of him as they reported the exact time they passed over the station. If he reached Fulda less than three minutes after the plane immediately ahead, he slowed down. If he took longer, he speeded up. In this way, planes entered the corridor at the desired three-minute interval. This timing system was not Tunner's brainchild. Pilots suggested it in a "gripe session" he arranged shortly after assuming command.¹³

The planes now went straight up the corridor, steering by dead reckoning. Forty minutes past Fulda, the pilot tuned his radio to the briefed frequency for the Tempelhof station. Guided by the controller's instructions, the plane continued to the Tempelhof range, turned left and descended to 2,000 feet before reaching the Wedding beacon. From there it turned onto the down-wind leg and dropped another 500 feet. After two more turns the pilot was lined up with the runway for a straight-in approach from six miles out. He came in at 120 miles per hour, lowering slowly until he was at 400 feet. If the ceiling was over 400 feet and visibility a mile or better, he would land. If the weather was below these standards, the pilot returned to his home base via the center corridor without delivering his cargo. To avoid planes from Gatow, aircraft from

¹¹Tunner, *Over the Hump*, 152-55; Tunner to Kuter, 16 Aug 48, and Kuter to Tunner, 2 Sep 48, AMC/HO; Percy, "Berlin Airlift," 206. For official definition of the Berlin Control Zone, see *FRUS*, 1945, 3: 1596. The heavy rains of "Black Friday" left the sod runways at Tempelhof unusable. Tunner to Kuter, 3 Sep 48, AMC/HO.

¹²CALTF, "Preliminary Analysis," p 19; BAFO Rpt, 288.

¹³Tunner-Herndon interview, n.d., folder 236, Herndon Papers. Cf. Tunner, *Over the Hump*, 175-76.

Tempelhof passed over a beacon at Wannsee, south of the British base, on their way to the center corridor. All Berlin airfields changed landing direction simultaneously as another way of reducing the risk of mid-air collisions.¹⁴

Procedures were similar in the northern corridor. The task was more complicated, because eventually planes from eight bases, not two, had to be integrated into the northern flow. The beacon at Dannenberg served the same purpose as the range at Fulda. At the other end of the corridor, the key landmark was the beacon at Frohnau. Planes were to pass it within 30 seconds of their scheduled time. British planes did not have to rely on dead reckoning in the corridor as Americans did, being equipped with navigational aids like Gee, Eureka, and Rebecca, which allowed them to pin-point their location at all times and adjust their speed as necessary. But it took a few weeks to get beacons installed. Until then, planes could not guarantee they would arrive at any given point at a precise time. Two South African pilots recalled no one worried about the interval between planes in good weather. When the weather was clear, “it was generally possible to see at least two of the aircraft ahead, but when flying on instruments it came as something of a shock when the aircraft just ahead of you called up at the 20-mile check point [Frohnau] and nearly took the words out of your mouth, while your peace of mind was in no way set at rest by the following aircraft calling up a few seconds later.” The other complication in the northern corridor was that it remained a two-way air lane. The Sunderland and Hythe flying boats, charter planes based at Finkenwerder, and charter and RAF planes based at Schleswigland returned via the northern corridor. Out-bound traffic stayed at or below 1,000 feet, with in-bound aircraft at 1,500 to 5,500 feet. One altitude, 3,000 feet, was reserved in all corridors for planes in distress.¹⁵

Tunner experimented with changes in the block system. In September, Rhein-Main and Wiesbaden tried a six-hour cycle in the southern corridor. The system had to be revised 1 October, when Tunner was able to withdraw the last of the C-47s from Wiesbaden and convert to the all-C-54 operation he wanted. No one liked the block system, which resulted in up to 30 planes lined up waiting to take off at the start of their base’s block, wasting time and fuel. It put uneven demands on ground crews, with surges and slack periods. The four-hour cycle that was standard for much of the airlift in the northern corridor posed serious problems for the British. The overall cycle was calculated for the convenience of the American C-54s at Fassberg and Celle, because they lifted the most tonnage. But the RAF’s Yorks and Dakotas usually took more than four hours to fly to Berlin, return, take on a second load, and taxi out for their second take-off. They carried non-standard loads, which took longer to load and

¹⁴Harris *et al.*, “Special Study,” 20-22; Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 43-45; Harold Larson, “The Berlin Airlift,” in Alfred Goldberg, ed., *A History of the United States Air Force, 1907-1957* (Princeton, 1957), 238; BAFO Rpt, 293.

¹⁵Paul Wood, “Thirty Years On: The Berlin Airlift — A Reassessment,” *Royal Air Forces Quarterly*, 18:3 (Autumn 1978): 231; P. L. MacGregor and K. N. Hansen, “The Berlin Airlift,” *South African Air Force Journal*, 1:3 (July 1949): 44-45; Barker, *Berlin Air Lift*, 25, 28, 32-33; BAFO Rpt, 31, 160.

unload, and they took extra time handling cargo being flown out of Berlin. Having missed one block, planes sat idle until the next. Both air forces would continue to make adjustments in the block system into the winter and beyond.¹⁶

Tunner also experimented with a handful of larger craft, C-74s and C-82s, but he found they disrupted the rhythm he wanted and used them only rarely for specialized cargoes Skymasters could not handle. A C-74 arrived at Rhein-Main 14 August, carrying 18 precious C-54 engines. The huge plane flew 20 tons of flour to Gatow three days later. Too heavy to use taxiways, it had to stay on the British base's main runway. It returned to the States 21 September. In the meantime, it made 25 trips to Berlin, delivering 445.6 tons. On 14 September the first C-82 landed in Berlin. Eventually five joined the airlift, hauling special loads. In the autumn of 1948, those included airfield construction equipment needed in Berlin. Tunner was not enthusiastic about the C-82s, which could fly under visual flight rules only.¹⁷

Tunner's air traffic flow depended on good radio communications, and it also relied on modern navigational aids. USAFE and the units of the Airways and Air Communications Service (AACS) immediately began expanding the limited network available when the blockade began. (As its name implied, AACS was responsible for controlling traffic in the airways as well as Air Force communications.) Berlin AACS on 2 July requested a beacon be installed at Braunschweig (Brunswick) to mark the western mouth of the central corridor; it was installed the following day. The key Darmstadt and Frohnau beacons did not exist when the airlift began, but were installed along with two others at USAFE's request by the 5th AACS Wing in August. Maintaining the low-frequency radio beacons took considerable manpower. Weather shortened their range and the BC-191 beacons originally used could not operate continuously, requiring duplicate installations. As they expanded the airways network, communications units also faced staggering demands for teletype and telephone circuits to link offices and bases, and they struggled with shortages of equipment, parts, and experienced technicians. They installed direct "hot lines" for voice and data traffic connecting airlift headquarters with its operating bases and teletype links to USAFE depots. Base telephone systems were manual, not automatic; operators placed all calls and were heavily overworked. At one base the average wait for an operator to respond was four minutes.¹⁸

The volume of traffic was equally high in the air corridors, where no such delays could be tolerated. All pilots and controllers used standard radio calls, shortened as much as possible because of the heavy traffic. At least, that was the theory.

¹⁶"USAFE and the Berlin Airlift, 1948," 162, 174, 181; BAFO Rpt 291; Wood, "Thirty Years On," 229-30.

¹⁷Pearcy, "Berlin Airlift," 205; "USAFE and the Berlin Airlift, 1948," 169-170; *Hist of USAFE, Aug 48*, D-4.

¹⁸*Hist of USAFE, Jul 48*, Signals Tab; *Hist of USAFE, Aug 48*, D1-11; Rpt, 1807 AACSW, "Berlin Airlift Air Traffic Control History," n.d., microfilm reel Z-0039, USAFE/HO; *Hist AACS, Jul-Dec 48*, fr. 556-67, microfilm reel A3119, AFHRA; "USAFE Summary," 40-42; "Preliminary Analysis," 24, 26.

Britons marveled at American ingenuity and informality on the radio waves. British controllers at Fassberg found it hard to adjust to irreverent comments from Americans waiting to take off, such as, "Just give me the woid and I'll make like a boid." Asked what his cargo was, one pilot replied in a rhyme that became famous throughout the airlift: "Here comes a Yankee with a blackened soul, headin' for Gatow with a load of coal."¹⁹ Both air forces soon found the standard four-channel very high frequency radios on their planes were a serious drawback; more channels were needed. The USAFE depot at Oberpfaffenhofen began installing eight-channel AN/ARC-3 radios on US planes as early as mid-August as part of routine overhauls, replacing the four-channel SCR-522s. Eventually C-54s were equipped with two of these radios, giving them 16 channels.²⁰

Life at Fassberg and Celle took some getting used to. Britons and Americans worked side by side, despite some cultural differences noted here by Jake Schuffert. (*Task Force Times*)



Weight could be as important as time. To save it, dehydrated food was used when possible. It often proved smarter to fly in ingredients rather than finished products. For example, it was less efficient to fly in bread than the flour, yeast, and coal used to make it. It was smarter to replace the ersatz coffee Berliners had become accustomed

¹⁹"Preliminary Analysis," 17-18; Donovan, *Bridge*, 66-67; Barker, *Berlin Air Lift*, 35. See also Kuter, "Berlin Airlift," in Eugene M. Emme, *The Impact of Air Power* (Princeton, 1959), 379.

²⁰"USAFE and the Berlin Airlift, 1948," 68; "USAFE and the Berlin Airlift, 1949," 139-40; BAFO Rpt, 38.

to with real coffee, because it saved the fuel used to make the artificial substitute. Packaging could also prove dead weight. Paper bags, cloth sacks, or cardboard or wooden boxes caused some losses due to spillage, but those were more than offset by the weight saved. Another way to carry more cargo was to cut the net weight of the aircraft carrying it. Tunner stripped his C-54s of their Long-Range Aid to Navigation gear and some excess communications gear. Planes staying below 10,000 feet did not need oxygen tanks, and removing them saved another 500 pounds. Filling fuel tanks only partially for the short round trips to Berlin saved hundreds of pounds. Efforts in this area were underway as late as May 1949 and were still yielding results: the depot at Burtonwood found ways to boost the payload of three C-54s by an average of 2,500 pounds.²¹

One key step forward in August was opening C-54 operations at Fassberg in the British zone. Smith and the British had sketched out this possibility in July, before Tunner's arrival, and the general embraced it wholeheartedly. "That operation would be about perfect for us," he advised Kuter, citing the shorter flying time to Berlin. By spreading the C-54 fleet geographically, Tunner also realized, he lessened the chance that weather would ground his entire force at once. If bad weather closed Rhein-Main and Wiesbaden, the odds were Fassberg would stay open, and vice versa. That gave added assurance of getting something into Berlin each day. Tunner and LeMay talked over the possibilities with Sanders 5 August, and the BAFO commander tentatively agreed to the idea; detailed staff work began at once. USAFE established the 7496th Air Wing at Fassberg 11 August, and Americans began arriving two days later. Three squadrons of C-54s, recently arrived from the US and held temporarily at Wiesbaden, followed 21-23 August, with the first flight into Berlin occurring on the twenty-first. The runway beacon was operational the last day of August, and a GCA unit diverted from Tulln, the US airfield near Vienna, followed early in September.²²

Operating down the northern corridor, Fassberg's planes landed at Gatow, not Tempelhof. The base worked under BAFO's operational control, the RAF headquarters assigning it intervals and block times. Controlling traffic in the northern corridor required skill and precision, as nearly a dozen different types of planes from four bases flew along its narrow confines at different speeds and altitudes.²³

Fassberg was unique in that, although it was a British base, an American was in overall command. At first, the base was run by an RAF station commander and his administrative (base support) staff, while operations and maintenance were under

²¹Barker, *Berlin Air Lift*, 10; "USAFE and the Berlin Airlift, 1948," 67; Collier, *Bridge*, 125; Milton oral history interview, 5 Dec 75, CUOH; Donovan, *Bridge*, 131-32; "Preliminary Analysis," 23.

²²Tunner to Kuter, 6 and 21 Aug 48, AMC/HO; "USAFE and the Berlin Airlift, 1948," 51-50, 61, 197; *Hist of USAFE, Aug 48*, 15-16. For Tunner's plan to minimize the effects of weather by dividing the C-54 fleet, see Mins, BAFO Conference, 25 Sep 48, AIR 38/384, PRO.

²³"USAFE and the Berlin Airlift, 1948," 176-78; "USAFE and the Berlin Airlift, 1949," 6.

American control. Dividing authority between two senior officers from different nations, neither responsible to the other and neither having a clear idea where their respective responsibilities started and ended, was awkward, to say the least, and it did not work. The two men did not get along. Tunner's solution was to transfer the American, bring in another, and put him in charge. It worked, in Colonel Milton's view and that of the British, because of the personality and hard work of the new US commander, Colonel Theron (“Jack”) Coulter.²⁴

The base quickly proved its worth. Except for a few initial cargoes, Fassberg specialized in one cargo: coal. The layout was almost ideal, once a large PSP loading ramp had been constructed. Analysts calculated one C-54 at Fassberg did the work of 1.6 C-54s at Rhein-Main or Wiesbaden, and Tunner attributed a fleet-wide jump in utilization in September to the move to the new northern base. In mid-July, Skymasters were averaging 1.9 trips and delivering 18.1 tons to Berlin a day; by 9 September, the averages were 2.7 trips and 25.6 tons. The advantages were so apparent that the original force, 27 C-54s, soon grew to over 60.²⁵

As popular as Fassberg was with commanders, the average GI hated it. Surveys in early December found morale at Fassberg the lowest of any airlift base. Americans were unhappy about meals, quarters, mail service, lack of recreational facilities, shortages of tools, and lack of information about the operation and how long it might last. Food and living conditions were the two biggest complaints. The British and Americans pooled their rations. GIs never adjusted to herring and tea, and the RAF ration was only two-thirds of what Americans were used to. A visiting USAFE flight surgeon sympathized, criticizing the mess hall as “poor” and unsanitary. Two years later his memories of Fassberg were still vivid. “When conditions were at their worst, such as at Fassberg in the winter,” he wrote, officers and airmen lived in overcrowded rooms “similar to those found in concentration camps.” Some found a release in writing the notorious “Fassberg Diary,” a bitter imaginary chronicle of bearded, ancient aviators who had been on continuous 90-day temporary duty at the base for over 230 years. Visited by a reporter, they shanghaied him into service as the first replacement they had ever seen.²⁶

Fassberg was such a success in boosting tonnage that Tunner wanted two of them. He found the other nearby at Celle, and the British agreed he could use it 24 September. The RAF promptly began readying it for use, renovating barracks and adding new ones, installing high-intensity approach lights, and laying a new runway. Although Celle had

²⁴“Preliminary Analysis,” 10; BAFO Rpt, 13; Milton, “Berlin Airlift,” 61.

²⁵Tunner to Kuter, 10 Sep 48, AMC/HO; “USAFE and the Berlin Airlift, 1948,” 162; Murphy to Marshall 2014, 12 Aug 48, 740.00119 Control (Germany)/8-1248, RG 59, NA; Waite to Herbert, 26 Sep 48, AIR 20/7804, PRO.

²⁶“USAFE Summary,” 89; *Hist of USAFE, Jan 49*, App 27 (Rpt, 7700 TI&E Gp, “Attitude Research Survey at Four Air Lift Bases,” 24 Jan 49); *Hist of USAFE, Nov 48*, Tab I; Moseley, “Medical History,” 1254; Davison, “Human Side,” 70; “Fassberg Diary” (copy in author's possession).



Berlin *Trümmerfrauen* (“rubble women”) sorting bricks as part of the construction of Tegel airfield. Women made up half the work force at the new base, which was built in three months.



Berliners at work at Tegel. Up to 17,000 of them took part. The tower in the right background is the Radio Berlin transmitter that French engineers dynamited on 16 December.

been a *Luftwaffe* transport base during the war, its runway could not support large planes like C-54s. A new one, 6,000 feet long, was ready 15 December, and the first Skymaster lifted off from it for Berlin the next day. Engineers incorporated lessons learned at other airlift bases, making Celle perhaps the airlift base with the best physical layout. Unlike Fassberg, the British remained in charge of base administration.²⁷ Like Fassberg, Celle was not a hit with the Americans stationed there, for many of the same reasons. Quarters were scarce and of mediocre quality. Family separation was a significant issue, too. The three squadrons of the 317th Troop Carrier Group had left their families behind in Tachikawa, Japan, and word soon reached Celle that Douglas MacArthur wanted to evict them from government quarters because the unit was no longer there.²⁸

Fassberg and Celle were not the only airlift construction sites that autumn. The other important one, as described by General Vandenberg to the National Security Council, was Tegel, in Berlin. It was in fact the site of Colonel Dorr’s abortive coal drops. Work began 5 August. Up to 17,000 Berliners helped build the new airfield, over half of them women, working alongside US military engineers. In 93 days they built a 5,500-foot runway with 500-foot overruns on each end, plus a 2,200 x 400-foot apron, using tons of rubble left from wartime American and British air raids. Tunner, as exacting as ever, insisted that the runway be built parallel with those at Tempelhof and Gatow; otherwise, the paths of planes landing at different airports might intersect. One American, H. P. Lacombe, made a unique contribution to the project. Engineers needed heavy earth-moving equipment, and there was not enough in the city. Then someone remembered how Lacombe, a genius with an acetylene torch, had cut earth-movers apart in 1942 so they could fit aboard airplanes and be flown to remote airfield sites in Brazil. He then welded them back together again. The FBI traced him to a small Midwestern airport, and a few days later he was in Frankfurt, teaching the fine art of chopping up a bulldozer. When he and soldiers from the Hanau Engineer Depot were finished, 81 rock crushers, rollers, and tractors had been cut apart, flown to Berlin, reassembled, and put to work. The first plane to land at the new base arrived 5 November, flown by Captain Charles A. Ludwig, First Lieutenant P. G. Smith, and Master Sergeant Charles W. Johnstone of the 19th Troop Carrier Squadron. In addition to the cargo (10 tons of cheese), Tunner and LeMay’s successor, Lieutenant General John K. Cannon, were on board. Regular operations began 18 November, when Dakotas from Lübeck started delivering coal.²⁹ The French handled cargoes, using labor provided by the *Magistrat*, and provided all ground support, such as security, caretaking and administration. A small US detachment from Tempelhof ran the tower

²⁷Rpt, Wg Cmdr Evans, [Trip Rpt, Lüneburg and Celle, 9 Sep 48], n.d.; Spackman to Stratton, 17 Sep 48; and Memo, 25 Sep 48, all in AIR 55/204, PRO; Percy, “Berlin Airlift,” 202; *Hist of USAFE, Nov 48, 25-27*; *Hist of USAFE, Jan 49, 28*; BAFO Rpt, 17, 265.

²⁸Hamburg dispatch 172, 22 Apr 49, 740.00119 Control (Germany)/4-2249, RG 59, NA; BAFO Rpt, 323; “USAFE and the Berlin Airlift, 1949,” 246.

²⁹*Hist of USAFE, Nov 48, 29-33*; [Berlin *Magistrat*], *Airlift Berlin*, 21, 51; Gallogly Rpt, 97, 105-09; Lay, 1: 24; Milton oral history interview, 5 Dec 75, CUOH; USAFE Press Release 2137-A, 4 Nov 48, microfilm reel Z-0039, USAFE/HO; *New York Times*, 6 Nov 48, 6; Jackson, *Berlin Airlift*, 61-62.

and base operations. The base became Berlin's main source of liquid fuels. Engineers built ten hydrants on the ramp that drained fuel directly from planes into four large underground tanks. A double pipeline then ran a mile and a half to storage tanks near the Plötzensee. For solid cargo, unloading docks were built six feet above the level of the waiting trucks and railway cars, so cargoes could slide down gravity chutes.³⁰

The field became fully operational 16 December, when the commandant of the French sector in Berlin, *General de Brigade* Jean Ganeval, took dramatic action to remove a hazard to flight. The transmitter for Soviet-controlled Radio Berlin, 200 feet high, was near the field in the instrument approach and posed a danger to planes landing in the fog. Ganeval asked the Russians to remove the obstruction, and they refused. On the morning of the sixteenth, French military police cordoned off the base. Russian technicians at the tower tried to telephone for help, only to find the lines cut. Meanwhile Ganeval invited the small American detachment at the base to his office and without explanation began serving refreshments. As his guests tried to figure out what there was to celebrate, a short distance away French sappers planted their charges at the foot of the radio tower. Aircrews on the flight line were warned to take cover, and at 11:45 the radio mast collapsed in a cloud of smoke. "You'll have no more trouble with the tower," Ganeval told his guests with a smile.³¹

There was little trouble with the Russians in the corridors, either, which surprised many people. Colonel Milton and his colleagues wondered when the Soviets would start interfering with the airlift, a step they regarded as inevitable and one they were certain would trigger a war. "Most of us in those days ... thought we were simply on the verge of World War III," he told an interviewer some years later. "None of us could see us coming out at the other side of this airlift in a peaceful condition. It just didn't seem possible." The two air forces were "buying time for World War III," he continued, "and that had a very distinct effect over the whole atmosphere of this operation."³²

The Kremlin may have shared Milton's worry about an incident sparking uncontrolled escalation, and it probably still believed there was nothing to be gained by disrupting something that was doomed to fail anyway. As late as November, Soviet diplomats were eagerly collecting for Stalin's edification reports that Western officials doubted the airlift could succeed.³³ Whatever the reason, Soviet interference with the

³⁰BAFO Rpt, 326; Donovan, *Bridge*, 137; Bennett, *Berlin Bastion*, 139; Harris *et al.*, "Special Study," 60-62.

³¹Kurt Reiss, *Berlin Story* (Berlin, 1952), 217-21; Charles, *Berlin Blockade*, 110-11; Downie, "Long Ranger," 20; Donovan, *Bridge*, 138.

³²Milton oral history interview, 5 Dec 75, CUOH.

³³For analyses of Soviet restraint, see Hannes Adomeit, *Soviet Risk-Taking and Crisis Behavior* (Winchester, Mass., 1982), 166-70; and Oran Young, *The Politics of Force* (Princeton, 1968), 184, 314. For diplomats' reports, see Narinskii, "Soviet Union and the Berlin Crisis," 71-72. A recent book has criticized Soviet intelligence for understating the airlift's accomplishments, citing in particular one August 1948 report from Berlin. Yet the airlift at that point was not the "success" the authors assume it was. David E. Murphy, Sergei

airlift remained a potential problem, not an actual one: American pilots reported two deliberate buzzings in August, seven in September, and one in October, with one instance of close flying (within 500 feet) each month. The British noticed a rise in Soviet activity but no attempts to interfere with their planes which, Robertson confessed 9 September, violated the two-mile control zone around the Soviet airfield at Dallgow, three miles north of Gatow, “up to seventy times a day.” Harassment of British planes was more frequent later in September and continued through October, without affecting the airlift flow.³⁴

While attention centered on possible violent incidents in the corridors, everyone recognized the Soviets need not go to such extremes. The airlift depended on radio communications and navigational aids, and both were susceptible to disruption and jamming. LeMay thought jamming would create “an extremely serious problem” for the airlift. Clay told the National Security Council in October jamming GCA could reduce airlift deliveries by 25 to 30 percent, adding that intelligence reports gave no indication the Soviets might attempt it. Both air forces developed countermeasures, just in case. Another Soviet tactic was to attempt to impose new restrictions on the allies. Soviet officials demanded their representative in the Berlin Air Safety Center receive full information on all flights an hour before take-off. At about the same time, the Russians contended *they* alone had created the corridors, not the four powers jointly, and they revived the claim that the corridors were intended for support of the Western garrisons, not the city. Such demands and contentions were brushed aside, and the airlift continued.³⁵

Weather was a more serious problem than the Russians. In September—a good month—nearly half the planes arriving at Tempelhof landed using GCA. Low visibility and morning fog hampered operations in October.³⁶ Tunner took a variety of steps to improve the accuracy of weather information and forecasts. Smith had begun B-17 weather flights in the southern corridor 9 July. Early in August two aircraft in each block started sending reports from Tempelhof on the conditions they had encountered en route. Berlin and Frankfurt began issuing hourly forecasts 26 August, instead of one every six hours. USAFE activated the 7169th Weather Reconnaissance Squadron at Wiesbaden in November; its C-47s joined weather ships in the North Atlantic and

A. Kondrashev, and George Bailey, *Battleground Berlin* (New Haven, Conn., and London, 1997), 63, 78.

³⁴“Summary of Corridor Incidents,” App VII-B, “USAFE and the Berlin Airlift, 1949.” Clay reported two 21 September buzzing incidents not listed in this USAFE summary. Clay to Bradley CC6031, 2 Sep 48, P&O 092, case 37, RG 319, NA. British reports (including Robertson’s comment about Dallgow [also called Staaken] in a 9 Sep 48 cable to Bevin) are in file AIR 20/7819, PRO.

³⁵LeMay to Clay, 14 Oct 48, box 63, Hoyt Vandenberg Papers, LOCMD; Clay quoted in Memo for the President, 22 Oct 48, box 220, PSF, Truman Papers, Truman Library; “USAFE and the Berlin Airlift, 1948,” 69; BAFO Rpt, 39; Murphy to Marshall 2298, 10 Sep 48, 740.00119 Control (Germany)/9-1048, RG 59, NA; Davison, *Berlin Blockade*, 198-99.

³⁶Harris *et al.*, “Special Study,” 43; *Hist of USAFE, Oct 48*, 28.

British and American aircraft patrolling the North Sea, feeding weather information back to forecasters.³⁷

Other airlift support networks were taking shape in Germany, the United States, and the United Kingdom. In Germany, USAFE and BAFO continued to face serious challenges as planes, pilots, and mechanics flooded their airfields. “The number of C-54s ... assigned to the Berlin Airlift was increased to 160 before adequate support was available for more than 50,” one after-action report commented. “When it became apparent that this would be a sustained operation, the number of assigned aircraft was increased to 225, although support was available for approximately 100.”³⁸ USAFE found itself critically short of people, reporting that personnel shortages were “perhaps the most serious foreseeable problem.” The command curtailed the transfer of officers 1 July and enlisted people 15 August in order to retain the pilots and maintenance specialists needed on the airlift. Communications was only 60 percent manned; civil engineers were short-handed and faced loss of half their experienced people by year’s end. USAFE estimated it needed 4,000 more people by 1 October. The Air Staff sent 520 maintenance people from the US by air to help. Managing such a rapidly expanding temporary-duty force was another challenge. Short-handed itself, the USAFE personnel office in August did not have accurate information on who had deployed and what their specialties were. Accountability was so poor on the British side at the end of July the RAF had to send an officer from England to do a head count. With no end to the blockade in sight, USAFE in August extended all temporary-duty tours to 180 days.³⁹

Oberpfaffenhofen struggled to perform the 200-hour inspections and overhauls of the task force’s C-54s (GIs, incidentally, struggled with the depot’s name, calling it “Obie” or “Oberhuffinpuffin”). As noted earlier, work began 7 August on an interim basis until the major wartime depot at Burtonwood, England, reopened to handle this work. Five days later Tunner set a goal for “Obie” of six C-54s a day instead of five. USAFE transferred 100 mechanics from Rhein-Main to help the depot, which had already committed 90 percent of its workforce to airlift support. In August, the depot averaged only four planes a day. Planes tended to arrive in groups rather than in an even flow, causing congestion and lost time at the first work station. The amount of work each Skymaster needed varied considerably, also disrupting a smooth flow through the facility. Installation of a new de-icer boot added 200 man-hours per aircraft. By late September, 450 mechanics were hard at work at the depot, 395 of them on loan from the airlift task force. Despite an erratic flow of spares, especially critical shortages of replacement engines and tires, they completed 45 planes in August, 108 in September, 139 in October, and 96 in November, as “Obie” handed the job at last to

³⁷“USAFE and the Berlin Airlift, 1948,” 32, 66-67, 204-05; Donovan, *Bridge*, 144.

³⁸CALTF AAR, reprinted in BAFO Rpt, 279-332, quote at 311.

³⁹*Hist of USAFE, Aug 48*, Tab B (Personnel and Administration), p 8; *ibid.*, *Sep 48*, App 40; “USAFE and the Berlin Airlift, 1948,” 64; BAFO Rpt, 57.

Burtonwood. Oberpfaffenhofen returned its last C-54 to Tunner 22 November. Burtonwood received its first C-54 on 5 November.⁴⁰

“Obie” never met Tunner’s goal of six planes a day; during October, its best month, the average was only 4.5. But Obie’s performance was sterling compared with the results of the 1,000-hour inspections being done in the States. Tunner outlined the situation for Cannon at the end of November. Planes were not returning from their 1,000-hour inspections on any regular basis, he reported. Of 67 sent so far, only 18 had returned. They had been gone an average of 57 days, with a range from 44 to 88. The goal was 22. Based on usage, he continued, he should have sent 126 back, but that would have left only a handful in Germany. He had managed only because of 50 recent arrivals, many of which had flown over 700 hours since their last overhaul.⁴¹

Other transatlantic traffic moved more expeditiously. Westbound planes flew parts to depots for repair. The Air Force depot at San Antonio overhauled aircraft engines, returning them on the average after five weeks. Kuter advised Tunner that Air Materiel Command did not “touch any other business each morning” until it had acted on Rhein-Main’s daily requisition. In addition to Air Force planes going back and forth across the Atlantic, commercial airlines moved people, parts, and equipment. Support was good, but at one point the airlift was down to three spare R-2000-9 engines. Luckily, a Seaboard Western Airlines plane delivered four of them the following day. While planes moved emergency C-54 parts, less critical ones moved on a special fleet of ships, called “Marinex,” starting in September. US Army and commercial freighters, Marinex ships were loaded so that priority cargo could be unloaded first and rushed to airlift bases.⁴²

To deal with the shortage of aircrews, six thousand miles from Berlin another airlift operation took shape. On 18 October the US Air Force recalled 10,000 pilots, radio operators, and flight engineers to active duty. Over the next few months, they were sent to Great Falls, Montana, where they spent three weeks flying C-54s loaded with ten tons of sand through a duplicate of the Berlin corridor system. Everything was as it was in Germany—location and radio frequency of the beacons, layout of glide paths, and runway alignments. Nature cooperated by providing identical magnetic headings and bad weather. The school sought to graduate 208 pilots and 104 crew chiefs per month. Sent to Germany for 180-day tours with the airlift, the first eleven graduates arrived 4 November.⁴³

⁴⁰“USAFE and the Berlin Airlift, 1948,” 95-102; *Hist of USAFE, Sep 48*, 15; *ibid.*, Nov 48, 24.

⁴¹“USAFE and the Berlin Airlift, 1948,” 138-9, 141.

⁴²Kuter to Tunner, 2 Sep 48, AMC/HO; “USAFE Summary,” 79, 81, 99, 116; “USAFE and the Berlin Airlift, 1948,” 126-27, 130n97.

⁴³“USAFE Summary,” 123; USAFE Press Release, 4 Nov 48, microfilm reel Z-0039, USAFE/HO.

BAFO did not have to go so far for support. Instead of inspections after 200 flying hours, RAF planes underwent checks every 100, so there was a nearly constant stream of planes crossing the Channel. By the time the blockade ended in May 1949, RAF Abingdon and Lyneham had overhauled 360 Dakotas, and RAF Dishforth had inspected 63 Hastings. Transport Command's major depot, RAF Honington in Suffolk, had overhauled 350 York engines, 5,000 radios, 7,000 aircraft wheels, 8,000 instruments, and 140,000 spark plugs. Supplementing the normal rotation, Honington used six of its own Dakotas to shuttle tons of equipment and spare parts to and from Germany. In addition to the RAF's work, civilian companies refurbished and overhauled Dakotas, including Scottish Aviation, Airwork Limited, Marshalls, and Field Aircraft Services. The RAF did not move its inspection depots to Germany for two good reasons. First, there was no room for them. Second, the RAF used the need to ferry planes to Britain as an opportunity to give its crews a rest back home. The preferred aircrew cycle lasted 24 days. Crews traveled from the United Kingdom and had the next day off, then flew daylight missions for five days. A 36-hour stand-down allowed them to prepare for five nights of flying. After another 36-hour transition, five days of afternoon operations ensued, followed by up to six days in Britain. Ground crews rotated every 90 days, starting in August. As one British after-action report explained, "Fresh energy and vigour was, in those days, almost of equal value with experience in the operation."⁴⁴

While taking advantage of working closer to home than the Americans, the RAF faced its own set of challenges in the late summer and early autumn. When the airlift began, RAF leaders had predicted they could deliver up to 750 tons a day for a month, after which deliveries would decrease. Exceeding these expectations, the British delivered a daily average of 1,463 tons in August and 1,259 in September. These achievements were the result of extraordinary measures, and the toll was beginning to tell. Skilled aircraft mechanics were in such short supply that the RAF froze discharges. The ban soon expanded to include cooks, drivers, radar and radio fitters, clerks, and aircrew members.⁴⁵ As noted earlier, the RAF had gambled on a short airlift, suspending transport aircrew training in order to send the maximum number of planes and crews to Germany. RAF Transport Command began urging in mid-August that some York and Dakota crews be withdrawn from Plainfare so training could resume. No one doubted this was desirable, but no one welcomed the attendant drop in British tonnage, estimated at 385 tons a day. With winter drawing nearer and no end to the crisis in sight, Brian Robertson reminded London, Britain should be increasing its lift, not reducing it. Twenty Dakotas and ten Yorks went home in September, along with thirty precious instructor crews.⁴⁶

⁴⁴Henderson press conference, 11 May 49, AIR 20/6893, PRO; Percy, "Berlin Airlift," 203-04; BAFO Rpt, 60, 159, 182, 184; *Hist of 1st ALTF, Jan 49*, p 45, microfilm reel C5110, AFHRA.

⁴⁵DO(48)11th Mtg, 15 Jul 48, and DO(48)12th Mtg, 21 Jul 48, CAB 131/5, and Mins of Air Ministry Mtgs, 27 Jul 48, and 13 Aug 48, AIR 20/6891, all PRO.

⁴⁶Mins, Air Ministry Mtgs, 13 Aug 48 and 23 Aug 48, and Memo, ASTO.2, 22 Sep 48, all in AIR 20/6891, PRO; Robertson to Bevin 1230 Basic, 3 Sep 48, AIR 20/7804, PRO; BAFO Rpt, 140.

London tried to offset these withdrawals by accepting offers of help from the Dominions and by chartering commercial aircraft to fly in the airlift. Australia offered ten Dakotas and crews on 3 August; South Africa and New Zealand quickly followed. London was “most grateful.” Pointing to limited airfield capacity, it declined the offers of airplanes but accepted the crews “as soon as they could get here.” Lord Tedder, the RAF Chief of Air Staff, thanked his Australian counterpart, remarking that “the strain on our crews has been severe.”⁴⁷ Ten Australian crews arrived at Lübeck 15 September. Ten South African crews under the command of Major D.M. van der Kaay reached Lübeck 18 October, followed by three New Zealand crews in November.⁴⁸ The Dominion crews rotated after six months, and their replacements were released in August 1949. The British considered asking the Dominions for ground staff but expected they would want to send units and maintain unit integrity, which would not be economical. The RAF’s shortages were in particular “trades” (career fields), not across the board, so manpower would have been wasted.⁴⁹

The other way to boost British tonnage was to hire contract carriers. The idea had been under consideration since the first of July. BAFO was reluctant, but there was no other way to increase the British contribution. From Berlin, Air Commodore Waite emphasized that Gatow was not operating to capacity and additional planes would be welcome. By late July, the Air Ministry was negotiating contracts for 32 land planes and two flying boats that were to deliver around 400 tons a day.⁵⁰ Three Lancastrians of Flight Refueling, Limited, attracted special notice, because they were modified to carry liquid fuels. No one had discovered a practical way to deliver fuel to Berlin. One could drain surplus aviation fuel from the tanks on airlift planes, but the added weight meant less cargo could be lifted and it added to turn-around time in Berlin. In addition, the city needed diesel fuel and kerosene, not just aviation gasoline. The Americans loaded 55-gallon

⁴⁷Melbourne to Air Min AX.695, 3 Aug 48; CRO to Canberra 216, 13 Aug 48; Tedder to Jones MSX.505, 26 Aug 48, all in AIR 20/6891, PRO.

⁴⁸BAFO Rpt, 142. For an account by two participants, see MacGregor and Hansen, “Berlin Airlift.” For correspondence arranging the Dominions’ contributions, see file AIR 20/6891, PRO. Canada officially stood aloof, though some Canadians took part as members of the RAF’s No. 24 (“Commonwealth”) Squadron. See J. W. Pickersgill, ed., *The Mackenzie King Record* (4 vols., Toronto, 1960-70), 4: 189-95; James Eayrs, *In Defence of Canada*, vol. 4: *Growing Up Allied* (Toronto, 1980), 38-51; John Holmes, *In Search of Peace* (2 vols., Toronto, 1979-82), 2: 102-4; and Arthur Percy, *Berlin Airlift* (Shrewsbury, UK, 1997), 49, 120. See also file W-22-5-G, vol. 119, series 18, RG 2, and file AR 22/19, vol. 2088, RG 25 A12, both in NAC. The Netherlands twice offered aircraft or crews, but the British turned down both offers, on grounds that the November 1945 agreement reserved the air corridors for the four occupying air forces. Use by aircraft from other countries might give the Soviets a pretext to disrupt the airlift. Strang memo, 28 Jun 48, 70498/C5177, and Gilchrist min, 28 Sep 48, 70517/C8064, both in FO 371, PRO. To help manage the large numbers of Germans working on the airlift at bases in western Germany, the British used some German-speaking Dutch air force NCOs as interpreters. BAFO Rpt, 1.

⁴⁹James to Cary, DCAS/5963, 4 Apr 49, AIR 20/6893; RAF Trans Cmd to 38 & 47 Gps, APX.672, 13 Aug 49, AIR 55/219; Mins, Air Ministry Mtg, 23 Aug 48, AIR 20/6891, all in PRO.

⁵⁰Cox to Walford, 1 Jul 48, AIR 20/7071; Waite to Whitfield, 5 Jul 48, AIR 20/7821; Strang to Robertson 926 Basic, 291905Z Jul 48, AIR 55/215, all in PRO.

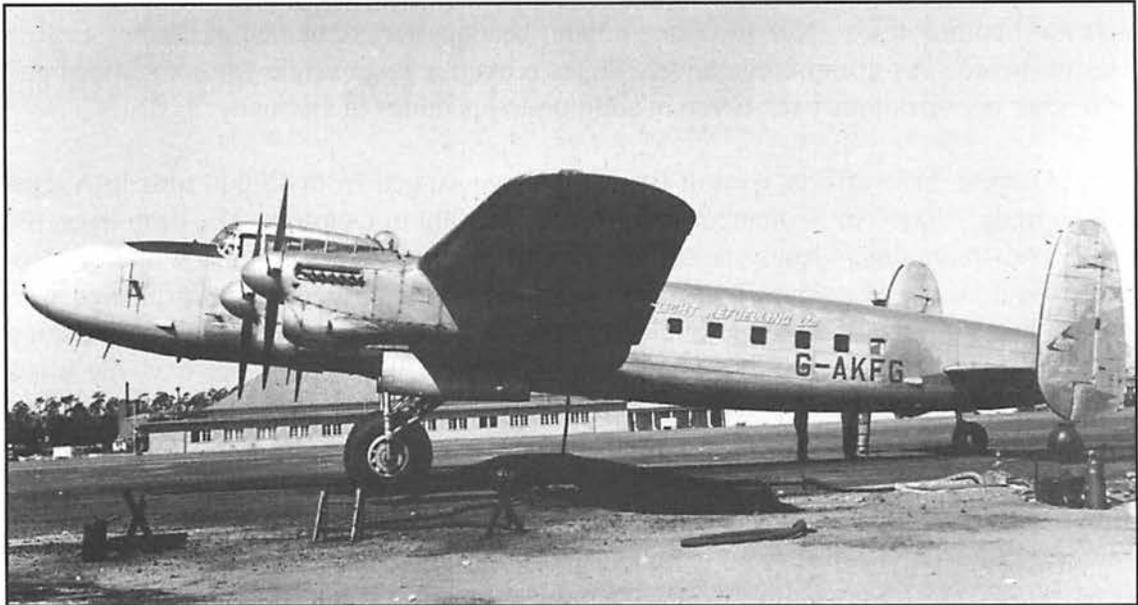
drums of fuel on board their C-47s and C-54s, which did not work well. The empty drums had to be steam-cleaned before they could be flown out of Berlin for re-use; otherwise the fumes made them more dangerous empty than full. The Lancastrians seemed the only reasonably practical solution, and they began flying 27 July. The first sortie to Berlin was direct from Tarrant Rushton in Britain; thereafter the three planes operated from Bückeburg. On 5 August the full civil lift started from Wunstorf and Fassberg. (As mentioned earlier, two chartered Hythe flying boats operated with the RAF Sunderlands from Finkenwerder.)⁵¹

Although the commercial companies did provide additional lift, they were expensive, the Air Ministry estimating the initial cost as £112,000 a week, and coordinating their work proved one of BAFO's biggest problems. Most of the companies were small firms short of experienced flight crews, mechanics, spare parts, and maintenance equipment. Many of the planes were small and uneconomical to operate and lacked navigational aids for flying in bad weather. Because the blockade might end at any moment, early contracts were for no more than a month at a time (in September they were *weekly*), giving the companies no incentive to invest in long-term improvements. Up to 15 companies were operating at a time, each with its own maintenance procedures, standards, and crews. Commercial rivals, they resisted amalgamation with one another, and there was little incentive to cooperate by pooling ground staff, spares, or tools. The companies were supposed to be fully independent, with the host RAF station providing fuel, deicing fluid, hangar and ramp space, and so on. In practice the RAF provided tools, parts, and advice as needed. During their first four months of operation, the companies planned their own operations and flew mainly days, pushing the RAF disproportionately into flying at night. Letting them fly when they wanted "caused considerable fluctuations in the civil traffic flow and had a bad effect on the already congested circuit at Gatow." Companies were paid by the flying hour, not by the tonnage delivered, so they had no incentive to increase load capacity, actually the reverse: smaller loads cut turn-around times. The original idea was British European Airways Corporation would act as liaison with the RAF and coordinate the charter carriers, but that could not be arranged until mid-December. In the meantime, Air Marshal Sanders complained, he had his hands full with "a heterogeneous and unorganised collection of individual aircraft chartered from many different private companies ... provided without adequate backing or servicing arrangements, and it had accordingly been quite impossible for his staff to rely on this contingent for any consistent figure of daily lift." Charter deliveries remained well below the expected 400 tons a day: 122 in August, 178 in September, and 258 in October.⁵²

⁵¹"USAFE and the Berlin Airlift, 1948," 192; "USAFE and the Berlin Airlift, 1949," 151, 383; Chilver to F.1, 27 Jul 48, AIR 20/7071, PRO; BAFO Rpt, 215, 221.

⁵²BAFO Rpt, 15, 51, 193-96, 519; Mins, Air Ministry Mtgs, 27 Jul and 13 Aug 48, and Rpt, ACAS(Ops), n.d. [5 Oct 48?], all in AIR 20/6891, and Atkinson to BEA, n.d., atch to Merer to Hardman, 7 Oct 48, AIR 20/7071, PRO. For weekly contracts, see Bevin to Robertson 2211, 27 Sep 48, AIR 55/215, PRO.

While it is hard to avoid historian John Tusa’s conclusion that managing this group was “one of the most aggravating parts of the entire operation” for the RAF, many of the companies performed well. RAF officers singled out Flight Refueling and Skyways in particular as efficient and well-run. D. C. T. Bennett, who as an air vice-



A Lancastrian tanker operated by Flight Refueling, Limited. Airplanes such as this one delivered liquid fuels for civilian use in Berlin from July 1948 until August 1949. The US Air Force hauled fuel for the US garrison for some months in 1948, but British civilian aircraft took over the entire fuel mission in 1949.

marshal had led Bomber Command’s pathfinder force during the war, was the only pilot qualified to fly his company’s four-engine Avro Tudor at night. He made two or three trips into Berlin night after night, virtually without a break, for three months.⁵³

The RAF also sought improved performance through better organization. Group Captain Hyde’s transport wing had dissolved in mid-July when the British lift had expanded beyond Wunstorf. Since then a small transport operations branch of the BAFO air staff had directed Plainfare through BAFO station commanders. By September the operation had grown too large for this small office to manage, and BAFO staff and station commanders remained unfamiliar with transport operations. On 22 September, BAFO sought to remedy the situation by placing the operation in the hands of a newly created Advanced Headquarters, No. 46 Group, at Bückeburg. The new organization absorbed the old transportation branch, but its core was a group from Transport Command’s No. 46 Group: its commander, Air Commodore John W. F. Merer; key officers from his operations staff (including signals, navigation, air

⁵³Tusa in Sowrey *et al.*, “Berlin Airlift,” 36; Merer to Williams, 7 Feb 49, AIR 55/216, PRO; Jackson, *Berlin Airlift*, 117.

movements, and air traffic control specialists); and a handful of technical and administrative officers. Merer's new headquarters remained small, totaling only 21 people. This was Spartan considering the job, which was to control and execute all RAF transport operations and coordinate them with those of the US and the charter carriers. BAFO exercised administrative control of Plainfare stations, the idea being to allow Merer to concentrate on flying. This was an improvement but remained an awkward compromise. No. 46 Group's main headquarters remained at Bushey Hall in Hertfordshire. As group commander, Merer remained responsible for six stations and two other organizations back home in addition to his duties in Germany.⁵⁴

Despite these efforts, overall British tonnage sagged from 45,000 tons in August to just under 38,000 in September and less than 32,000 in October. The drop triggered much soul-searching. Analysts could point to plenty of causes: the withdrawal of planes and crews to re-start Transport Command training, mechanical problems with Yorks, and the effects of being displaced from Fassberg by the Americans. The latter included longer flying times from Lübeck and fewer British trips per day, the block system introduced when the Skymasters started using the northern corridor, and dividing the Dakota fleet between Lübeck and Fassberg, which had left both bases short of mechanics, tools, and spare parts. Solutions were harder to find. Using Bomber Command to drop coal might add 120 tons a day but destroy it "as a potential striking force." The search for aircrew members went on, with little success. Mechanics had been pooled in the hope this would be more efficient. It had not worked well, and Merer restored squadron integrity, fostering esprit de corps and a healthy sense of competition. With winter drawing closer, Robertson was "extremely anxious" lest the Americans "accuse us of failing to carry out our share of this operation."⁵⁵

The Americans, whose own effort was gathering momentum, were not interested in finger-pointing. Their gains more than offset British losses, so overall totals climbed. In July, the airlift had delivered 2,185 tons a day. In August the figure was 3,835 and in September it was 4,593—just above Clay's target. In honor of the US Air Force's first birthday, 18 September, the Americans planned a maximum effort. Clay directed that the only cargo lifted that day was coal. The two air forces delivered 6,988 tons: the Americans 5,582.7 and the British 1,405.3. The US flew 653 missions, the British 244. A plane landed in Berlin every 96 seconds—on a day when 18 hours were under instrument conditions. Loading and unloading crews set new records. One C-47 took on its load in three minutes, 30 seconds, and one was unloaded at Tempelhof in five minutes, 45 seconds. Another crew unloaded 38,500 pounds of cargo from the C-74 in 12 minutes flat. Clay was ecstatic, telling Washington that Air Force Day proved "we can last indefinitely in Berlin" and "except possibly for two or three winter months, we can support Berlin better than ever in the past." It would be expensive, but the cost was

⁵⁴BAFO Rpt, 7-9, 139-41.

⁵⁵Merer to Sanders, 29 Sep 48, AIR 38/384; Rpt, ACAS(Ops), n.d. [5 Oct 48?], AIR 20/6891; Waite to Cross, 21 Sep 48, and Cross to Waite, 24 Sep 48, AIR 20/7804; Study, DDBOps, 20 Sep 48, AIR 20/6891; Robertson to Williams 7962, 27 Oct 48, and 1 Nov 48, AIR 55/215, all in PRO.

“only a fraction of what we are now spending to aid Europe and to re-arm to stop Soviet expansion. Let’s do it.”⁵⁶

His appeal was timely, because diplomatic efforts to end the crisis remained dead-locked. Stalin still hoped for Western concessions regarding the London program that the West refused to make. A breakthrough seemed close at the start of August, after the three Western ambassadors met Stalin in a long late-night session in the Kremlin. Discussion narrowed to a debate over the Soviet mark and B mark in Berlin. In exchange for a lifting of the blockade, the West was willing to withdraw the B mark and make the Soviet or *Ost* mark the only currency in Berlin, if it was under proper four-power controls. The two sides could not agree on these controls. They seemed close at the end of August, but when the negotiations transferred to Berlin so the four military governors could work out the details, the talks collapsed. At the end of September, the Western powers referred the Berlin dispute to the United Nations Security Council in what many regarded as a last chance to find a diplomatic solution. If the council failed, the West might have no choice but to resort to force.⁵⁷

By late September, then, Tunner had improved the airlift’s efficiency and worked out arrangements with the British to base US planes in the northern zone. He also had nearly reached his third initial goal, a combined Anglo-American command for the entire airlift. With the Americans using the southern corridor and Tempelhof while the British used the northern corridor and Gatow, one could argue parallel, separate efforts made sense; coordination and cooperation were all that were needed. The American move to Fassberg made such an approach obsolete, and it was clearly only the first step toward a growing US presence in the British zone. Tunner and LeMay had begun discussing a combined command with the British early in August. The BAFO commander, Air Marshal Sanders, agreed to the idea in principle 5 August, though he preferred to apply it only to air traffic control in the Berlin area, while the Americans wanted an organization with operational control of all air traffic at all airlift bases. Unable to sway Sanders, LeMay presented his case to General Vandenberg 24 August, with an appeal that he raise it with Lord Tedder, Vandenberg’s opposite number. Cutting “minutes and even seconds” from each function was the “key to the ultimate tonnage which could be sent to Berlin safely,” LeMay insisted, and he was certain unified command would boost tonnage. The new commander would not need control over administrative, logistic, maintenance areas, just over what units were doing when they were actively supporting the airlift. The USAFE commander thought Tunner’s current headquarters plus half a dozen British officers would do, with the commander being an American because of the greater US role in the airlift.⁵⁸

⁵⁶“USAFE and the Berlin Airlift, 1948,” 188-90; Bennett, *Berlin Bastion*, 127; Kuter speech to Business Advisory Council, “‘Vittles’ — The Air Supply of Berlin,” 15 Dec 48, p 5, Kuter Collection, Special Collections Branch, US Air Force Academy (USAFA) Library, Colorado Springs, Colo.; Lay, “Berlin Air Lift,” 1: 35; Smith, ed., *Clay Papers*, 2: 867, 877.

⁵⁷For the diplomatic steps summarized here, see *FRUS, 1948*, 2: 995-1197.

⁵⁸Tunner to Kuter, 6 Aug 48, AMC/HO; “USAFE and the Berlin Airlift, 1948,” 153-55.

The British soon gave way, and the discussion shifted to details. The main sticking point was the site of the new headquarters. The Americans insisted it be at Wiesbaden, because, as LeMay had suggested, they intended simply to augment Tunner's existing headquarters there with a handful of Britons. Sanders and his staff wanted the headquarters at Bückeburg, arguing that the main effort in the future would be from bases in the British zone. The Americans argued "dual-hatting" in Wiesbaden was necessary to save people, because there were not enough senior American and British officers available to create a separate new headquarters. On 7 October the British yielded "for the time being," reserving the right to reopen the question later.⁵⁹

On 15 October USAFE and BAFO created a Combined Airlift Task Force (CALTF) under Tunner's command. Air Commodore Merer served as deputy commander while retaining command of No. 46 Group, and Tunner retained command of the US airlift task force. Colonel Milton also doubled as chief of staff of CALTF and the US organization. Tunner's mission as CALTF commander was "to deliver to Berlin, in a safe and efficient manner, the maximum tonnage possible." He had command of assigned US units and operational control of No. 46 Group, and could direct other units not assigned to the task force to support it as a top priority.⁶⁰

The RAF regarded CALTF as a combined headquarters "in name only." The reality was that the CALTF and Tunner's US headquarters were one and the same. Merer's appointment as deputy commander was "not really satisfactory," as the BAFO's official after-action report noted, because his primary duty was to command No. 46 Group. That kept him in the British zone most of the time, and at best he could make the 400-mile round trip to Wiesbaden about once a week. As LeMay expected, the permanent British contingent at CALTF remained small: two or three operations officers, a communications officer, and an air traffic control specialist. There was one other important member of the RAF on Tunner's new staff, though: Group Captain Hyde, who had led the initial RAF force at Wunstorf, now returned to the airlift as CALTF director of plans.⁶¹ Personnel aside, the RAF judged that CALTF "did not develop much beyond regulating the traffic flow into the Berlin airfields and coordinating the air traffic pattern." No. 46 Group remained responsible for coordinating the air flow from all fields in the British zone within the overall pattern and block timings set by CALTF. US operations officers at Group headquarters coordinated US flights from Fassberg and Celle, an arrangement that worked smoothly.⁶²

⁵⁹Robertson to Sanders 54527 and 54528, 30 Sep 48, and Sanders to Robertson AX.469, 5 Oct 48, all in AIR 20/7810, PRO; BAFO Rpt, 142; "USAFE and Berlin Airlift 1948," 158; *Hist of USAFE, Nov 48*, 21.

⁶⁰"USAFE and the Berlin Airlift, 1948," 244; CALTF GO-1, 28 Oct 48, App VII, *Hist of USAFE, Oct 48*; BAFO Rpt, 11.

⁶¹Memo, Air Staff, BAFO, 13 Jan 49, AIR 55/218, PRO; BAFO Rpt, 142; "USAFE and the Berlin Airlift, 1949," 13; Tunner, *Over the Hump*, 210.

⁶²BAFO Rpt, 19.

US COMMANDERS DURING THE BERLIN AIRLIFT



Gen Lucius D. Clay
Commander in Chief, European Command
1947-49



Lt Gen Curtis E. LeMay
Commanding General, USAFE
20 Oct 47 – 15 Oct 48



Lt Gen John K. Cannon
Commanding General, USAFE
16 Oct 48 – 22 Jan 51



Brig Gen Joseph Smith
Commander, Berlin Airlift Task Force
29 Jun – 29 Jul 48



Maj Gen William H. Tunner
Commander, Airlift Task Force (Prov)
29 Jul 48 – 5 Nov 48
Commander, CALTF, 28 Oct 48-1 Sep 49
Commander, 1st Airlift Task Force
5 Nov 48 – 1 Sep 49

The British, already sensitive about their relative contribution to the airlift, worried that the combined task force meant a further diminution of their role. As a senior British diplomat, Sir William Strang, pointed out, Tunner intended to lift the maximum possible tonnage “regardless of flag.” While applauding that, Strang noted that it implied the British would be relegated to a minor role: “Logically, a truly combined operation would ... mean that all the nearby airfields in the British zone were used almost exclusively by Skymasters.” If that happened, Strang continued, “it seems likely that the whole job could be undertaken by Skymasters,” with the British contribution limited to “special types (tankers, etc.)” Yet to run the operation on a “national basis” to preserve the British role meant lost tonnage and failure. There was no question in Robertson’s mind which factor had to take priority: “efficiency must come before national prestige.” Tedder took the same view.⁶³

There were other noteworthy organizational changes in October and November. In a paper change, the provisional US task force Tunner had commanded since late July inactivated 4 November, and USAFE activated a permanent unit, the 1st Airlift Task Force, in its place the same day.⁶⁴ The change reflected the shift in the airlift from an *ad hoc* operation to a long-term one. Other changes had already occurred, one of which had important and unpleasant consequences for Tunner. He was now a combined commander, and both his bosses had left for new assignments in October. Air Marshal T. M. Williams replaced Sanders as BAFO commander 30 October. LeMay left USAFE to take the helm at Strategic Air Command 16 October, and General Cannon took his place.

Ross Milton recalled that Cannon “had an intensely personal approach to command. It was an approach that included a love of detail ... and a desire to know everything that was going on. It was also an approach that caused an immediate clash with Tunner,” who resented interference with *his* airlift. For all his gruffness, LeMay had given his strong-willed subordinate free rein, and Tunner had lived up to his promise and *produced*. But now Cannon was determined to put his stamp on the operation, which was *his* airlift, too. Tunner did not like it and seemed to forget Cannon was his boss. As he explained in his memoirs, “All I wanted was to be allowed to carry out my mission as I saw it should be done.... I wanted to be left alone—I knew best how the job should be done.” He wanted and needed Cannon’s “help,” as he put it, but resented his supervision.⁶⁵

⁶³Strang to Robertson 3212, 3 Nov 48, and Robertson to Strang 920 Basic, 6 Nov 48, both in AIR 20/6891, PRO. For Tedder’s views, see Cecil James in Sowrey *et al.*, 70-71.

⁶⁴USAFE GO-91, 3 Nov 48; *Hist of USAFE, Nov 48*, 19-20.

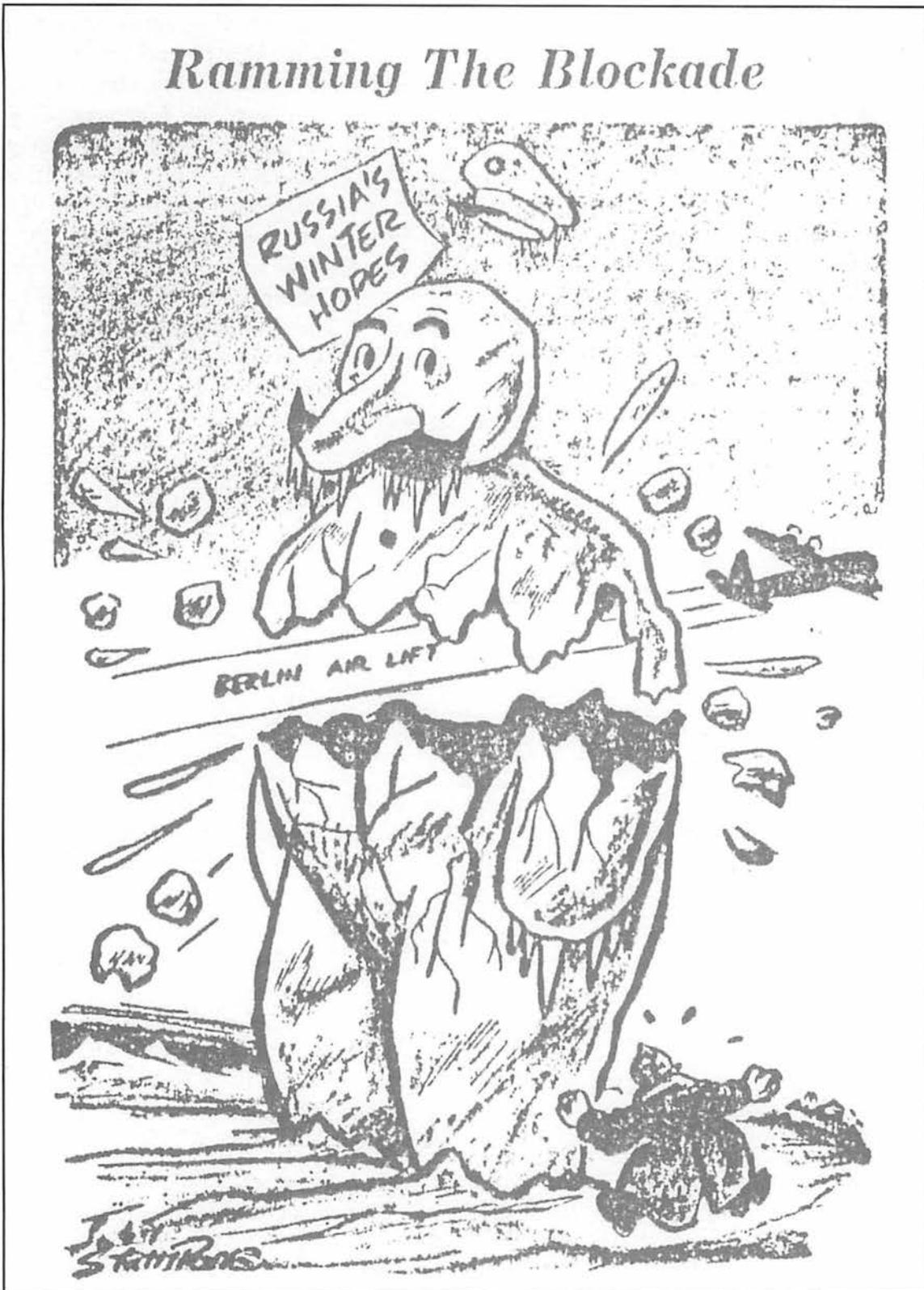
⁶⁵Milton, “Berlin Airlift,” 63; Tunner, *Over the Hump*, 189. Tunner never saw the airlift as an operation occurring within a theater command. He believed the new Military Air Transport Service should manage all airlift operations, whether “tactical” or “strategic” in today’s parlance. When the airlift began, he wanted a MATS task force to deploy to Europe and conduct the operation while remaining under MATS control, and MATS headquarters had developed plans to do just that. It came as a “shock” to some members of his staff to find that Tunner’s task force worked for USAFE, not MATS, when they arrived in Europe. Tunner himself wrote the MATS commander 3 August, “The organization is not what you wanted, nor

Compounding the situation was a certain confusion in command arrangements. To keep Tunner's staff small and focused on operations, USAFE retained responsibility for some other staff functions. Thus, neither Tunner's combined nor his US task force headquarters exercised "direct administrative control over the principal [US] airlift bases"; USAFE did. (The RAF operated until December under a similar arrangement, with BAFO exercising administrative control of RAF stations while No. 46 Group had operational control of flying units.) In practice this meant there was no clear line separating USAFE's responsibilities from those of the task force. A vague division of responsibility between two strong-willed commanders was a recipe for trouble, and Milton later described his role as intermediary between Tunner and Cannon "the toughest assignment of my Air Force career."⁶⁶ That was undoubtedly true. Yet one can make too much of this personality conflict. After all, General Tunner's greatest adversary was not General Cannon, but Russia's great ally against Napoleon and Adolf Hitler, "General Winter." Their great duel was about to begin.

what I would have preferred, but higher authority determined it should be under USAFE. As a matter of fact, due to the complete dependence of this thing on the theater for all support, I must now agree with that decision at least for the time being...." Tunner, *Over the Hump*, 159; Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 21-22, 26-31; Tunner to Kuter, 3 Aug 48, AMC/HO.

⁶⁶"USAFE and the Berlin Airlift, 1948," 64, 244; "USAFE Summary," 161; BAFO Rpt, 141, 143, 187; Milton quoted in Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 32.

Ramming The Blockade



Task Force Times, 6 December 1948

CHAPTER 4

GENERAL TUNNER VS. GENERAL WINTER

Winter. The very word gave Russians hope and chilled the hearts of Berliners and those trying to keep them free. Moscow's great hope and the West's great fear was that winter would ground the airlift, or impair its effectiveness to the point that it could not support the city. Buoyed by the airlift's sterling performance on Air Force Day, officials began to shed their pessimism about the lift's long-term prospects. Lovett and Forrestal, for example, no longer spoke of October deadlines.

Still, winter posed a serious challenge to the airlift. No one knew how bad the coming winter might be. Studying the data, Air Commodore Waite pointed out that German winters "vary amazingly." The only safe thing to do was assume the worst and stockpile as much as possible. Despite the enormous expansion of the airlift since June, the British and Americans had been unable to outpace consumption. The British commandant in Berlin, Major-General E. O. Herbert, reported in mid-September that the "present lift is something like 40 percent short of the minimum required" through the winter. Clay, for all his enthusiasm about Air Force Day, admitted 23 September that "our average airlift capacity to date has not sufficed to stockpile for the winter months and in fact we are not quite holding our own." In Washington, Secretary Marshall briefed the National Security Council that, while the airlift had been more successful than expected, "in many respects time was on the side of the Soviets."¹

The only solution seemed to be more planes. The airlift must be stepped up "right now," Waite insisted. If it wasn't, "we have, in my opinion, 'had it.'" At current rates of delivery and consumption, Berlin would run out of supplies at the end of January. It might happen sooner, because the city needed more coal during the winter months. By mid-September, planners estimated the airlift needed to deliver over 5,000 tons a day, up from the earlier figure of 4,500. On 20 October the target was raised officially to 5,620 tons a day. Robertson dismissed talk of targets and quotas out of hand. "There is no good purpose served by talking about targets," he bluntly told his new BAFO commander. "The only target is the maximum possible."²

¹Waite to Spackman, 24 Aug 48, AIR 20/7804; and Stratton to Spackman, 16 Sep 48, AIR 55/204, both in PRO; Smith, ed., *Clay Papers*, 2: 878; Marshall quoted in Memo for the President, 9 Sep 48, box 220, PSF, Truman Library.

²Waite to Herbert, 9 Sep 48, AIR 20/7804, PRO; Memo, "Airlift," n.d. [16-17 Sep 48?], AIR 20/7805, PRO; BAFO Rpt, 301; Robertson to Williams, 1 Nov 48, AIR 55/215, PRO.

Waite urged London to charter “every available aircraft that can carry a cargo, regardless of expense,” while Clay sought to overcome reluctance in Washington to commit additional planes to the airlift.³ On 22 July, the National Security Council had agreed to raise the total of C-54s to 125, still 100 below Milton’s figure of 225. In August, the US Army tried to draw a line against further increases. The move would concentrate the bulk of the US air transport fleet on a few vulnerable and unprotected airfields on the Soviets’ doorstep, “placing all [our] eggs in one basket.” Essential for the nation’s emergency war plans, the transports would probably be destroyed at once if war broke out. Even if war were avoided, the transfers would have “very profound” effects on the Military Air Transport Service, shutting down virtually all its overseas routes and stopping training for C-121 and C-97 crews. Clay conceded these points but insisted the West’s stake in Berlin outweighed them. He urged in the strongest terms immediate deployment of 69 additional C-54s, plus 47 more by 1 December. With these additional planes, he was convinced, the airlift could continue through the winter; without them, it would fail.⁴

Kuter had no objection to sending more aircraft, as long as they did not come from his command. “It seems to me that MATS may either be made or destroyed” depending on which command provided the planes, he advised Tunner. “MATS will wind up in a very strong position if you have ... all troop carrier C-54s when VITTLES terminates. 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.”⁵

The Joint Chiefs agreed in mid-September to send 50 C-54s, and discussion shifted to whether to send the remaining 66. The chiefs used the issue to press the National Security Council for definitive decisions about Berlin. In a 13 October memo to Forrestal, they argued the US military “cannot effectively support the supply of Berlin by air lift on an indefinite basis” without seriously affecting its ability “to meet its primary national security responsibilities.” While the airlift could continue indefinitely, it “cannot be a permanent solution,” they argued, and Soviet disruption could force the US and its allies to decide “whether or not the Berlin situation constitutes a war issue.” They challenged the view that the council had decided that question on 22 July, and they asked that it be clarified now “beyond all doubt.” If the West would fight for Berlin, “full-out preparations” for war should be made “immediately”; if it would not, the allies

³Waite to Herbert, 9 Sep 48, AIR 20/7804, PRO.

⁴Timberman to Wedemeyer, 23 Aug 48, P&O 092 TS, RG 319, NA; P&O Paper, 29 Sep 48, CCS 381 (8-20-43), sect. 18, RG 218, NA; Smith, ed., *Clay Papers*, 2: 852, 867, 875, 878-79, 890-91. LeMay asked for 54 more C-54s on 13 August, plus another 42 two weeks later, which would bring the total to 207. LeMay to Clay, 30 Aug 48, fr. 425ff., microfilm reel C5113, AFHRA.

⁵Kuter to Tunner, 13 Aug 48 and 23 Aug 48, AMC/HO.

should prepare to withdraw. On the immediate question of the 66 planes, the chiefs reluctantly endorsed Clay's request.⁶

When the council met 14 October to consider these recommendations, the chiefs ran into a buzz saw of opposition. Under Secretary of State Lovett lectured them like errant schoolboys. The council had made its decision in July fully understanding its implications, he contended. He went on to accuse them of having a "case of the jitters" and using Berlin as a ploy to get larger appropriations. Army Secretary Royall chimed in, saying the chiefs were trying to "pass the buck." In an unusual move, the chiefs' memos were recalled and destroyed. With the fireworks over, the council endorsed sending the Skymasters to Germany. President Truman approved the recommendation a week later.⁷

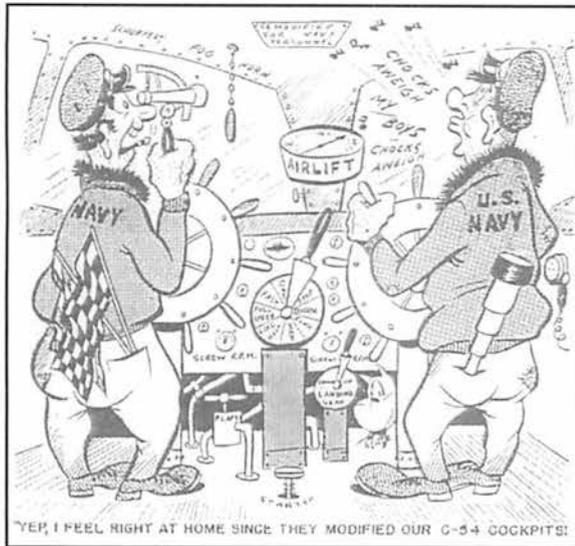
The planes, including two US Navy squadrons (VR-6 and VR-8), began deploying 27 October, and the last one arrived in Germany 12 January. The first R5D (the Navy's version of the C-54) arrived at Rhein-Main 9 November. Manned by a crew from VR-8 (Lieutenant Richard R. Gerszewski, pilot; Ensign George E. Lacey, co-pilot; and Chief Machinist's Mate James L. Jennings, flight engineer), it flew its first mission into Berlin four hours later.⁸ Navy participation had been under consideration for some time. LeMay had opposed, worried about operational control and logistical support. The first proved groundless, as the two squadrons worked smoothly with their Air Force counterparts at Rhein-Main. Logistics also turned out to be less of a problem than anticipated. Air Materiel Command assured USAFE in mid-November there were few unique R5D parts. The Navy agreed to provide its own aircraft engines, while USAFE agreed to stock, support, and repair Navy parts and equipment whenever possible as if they were Air Force items.⁹

⁶P&O Study, 29 Sep 48, atch to Wedemeyer to Draper, 5 Oct 48, box 17, RG 335, NA; Condit, *History of the Joint Chiefs of Staff*, 2: 150-53; Draft memo, JCS 1907/11, 11 Oct 48, CCS 381 (8-20-43), sect. 18, RG 219, NA.

⁷Condit, *History of the Joint Chiefs of Staff*, 2: 154-55; Memo for the President, 15 Oct 48, box 220, and Truman to Souers, 21 Oct 48, box 204, both in PSF, Truman Papers, Truman Library. Interestingly, one of Lovett's subordinates, George Butler of the state department's policy planning staff, thought the chiefs' point about the lack of clarity in US policy was well-taken. In a background paper for Lovett summarizing the chiefs' memos, Butler wrote, "It seems to me that the guidance needed from the National Security Council is ... whether the United States has made an irrevocable decision to maintain its forces in Berlin and to continue operation of the airlift even if that course of action makes war a probability." Butler to Lovett, 14 Oct 48, box 33, Records of the Policy Planning Staff, RG 59, NA. As the chiefs' historian has pointed out, they did not get an answer. Condit, *History of the Joint Chiefs of Staff*, 2: 155.

⁸Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 20; "USAFE and the Berlin Airlift, 1948," 180; USAFE Press Release 2152-A, 10 Nov 48, microfilm reel Z-0039, USAFE/HO.

⁹Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 20, 25; "USAFE and the Berlin Airlift, 1948," 131-33.



Two US Navy squadrons joined the airlift in November. While Jake Schuffert suggests, tongue in cheek, that special modifications were necessary, actually the Navy planes were not that different from Air Force ones. (*Task Force Times*)

companies, flying coal, food, and liquid fuel.¹⁰ The Hastings more than offset the loss of the Sunderland and Hythe flying boats, withdrawn 14 December when Berlin's lakes froze for the winter. (Chartered Handley Page "Haltons" replaced the Sunderlands in delivering salt, carrying it in panniers beneath their fuselages.)¹¹

These reinforcements arrived to face the worst weather of the entire blockade. Thick fog settled over Germany. When the weather broke briefly 6 November, Tunner telephoned Merer and every US base commander to urge a maximum effort. One clear day simply added to the frustration from many bad ones. Of the 720 hours in the month, 213 were below minimums, 444 were under instrument conditions, and only 63 allowed flying under visual flight rules. US tonnage dropped to just under 88,000 tons, while the British slumped to 25,600. Only ten US planes reached Berlin on 30 November, delivering 83 tons, making it the worst day of the entire airlift. As Kuter summed it up, "November was a black and heart-breaking month."¹²

The fog persisted into December. By the middle of the month, German meteorologists were reporting it was the foggiest winter in 80 years. Two anecdotes suggest

¹⁰BAFO to 85 Wing OX.625, 15 Oct 48, and BAFO to 85 Wing O.665, 14 Oct 48, both in AIR 55/204, PRO; Percy, "Berlin Airlift," 201.

¹¹Barker, *Berlin Air Lift*, 20, 34; BAFO Rpt, 266; Waite to Herbert, 14 Dec 48, AIR 20/7088, PRO.

¹²*Hist of USAFE, Nov 48*, 17; "USAFE and the Berlin Airlift, 1948," 235; Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 46; USAFE Press Release 2211-A, 30 Nov 48, microfilm reel Z-0039, USAFE/HO; Kuter speech, "Vittles," USAFA Library.

how bad it was. At Wiesbaden, a pilot was startled to hear another mention a dangerous gravel pit near one end of the runway. In all his weeks at the base, the first pilot had never caught a glimpse of it. In the second story, a C-54 crew was taxiing their plane one day and stopped on instinct, sensing something was wrong. Investigating, they discovered



The first RAF Hastings arrives at Schleswigland from Britain, 1 November 1948.

their plane had halted within seven feet of a giant C-74, hidden in the mist. Operations analysts at BAFO, who had predicted in September the airlift would fail, repeated their gloomy forecast 10 December. As they saw the trends, “an extremely serious situation will develop about mid-February,” when coal would dwindle to a few days’ supply. Past estimates of the lift had been high and requirements low, they added, which had produced “an undue sense of optimism in many high quarters.”¹³



Jake Schuffert was not the only one to use nautical terms to describe the November fogs. One pilot reportedly radioed his GCA controller, “There’ll be a slight delay. I can’t find my oars!” (*Task Force Times*, 2 December 1948)

¹³Ruth Andreas-Freidrich, *Battleground Berlin: Diaries, 1945-1948* (trans. Anna Boerresen; New York, 1990), 253; E. H. Kahn, Jr., “A Reporter in Germany: *Die Luftbrücke*,” *New Yorker*, 25:12 (14 May 49): 46-47; Collier, *Bridge*, 135-36; Draft Rpt 147, 10 Dec 48, AIR 55/100, PRO.

Both air forces continued efforts to offset the effects of winter through improvements. Tunner had won approval for high-intensity approach lighting during a trip to Washington in October, and installation was soon underway. Tempelhof had priority, and the D-2 lights had been installed at the eastern end of its southern runway by 25 November. Because of tall apartment buildings in line with the runway, the lights had to be installed on a row of towers about 100 feet apart, gradually increasing in height away from the field until the last tower was 75 feet tall. Berlin lacked material suitable for constructing the towers, so engineers cut PSP mats and welded them together into strips. The Soviets thought the project a propaganda windfall for them, because the towers and the underground electrical cables connecting them ran through a cemetery. With the *Magistrat's* permission, several graves were moved. In addition, the spire of a church blocked one light and had to be removed. The Soviet-sponsored papers denounced the "aggressive" airlift and condemned Americans for behaving like combat troops in an enemy country, desecrating graves. Over the next few months, other airlift bases received the new landing lights: Rhein-Main, 29 January; Fassberg, 1 March; Tegel, 13 March; and Wiesbaden, 9 April. At the same time, ramp lighting at most bases improved, making operations at night faster and safer.¹⁴



High-intensity landing lights on the eastern approach to Tempelhof. The lights had to be elevated so pilots could see them over the apartment buildings east of the runway. When other construction material could not be found, engineers welded together strips of pierced steel planks to make the towers. Several graves in this Berlin cemetery were moved to make way for the lights.

¹⁴Harris *et al.*, "Special Study," 66-67; "USAFE and the Berlin Airlift, 1948," 179, 206-07; "USAFE and the Berlin Airlift, 1949," 306.

Another key ally against the winter appeared atop Tempelhof, in the shape of a CPS-5 radar. Installation began in November and was complete 27 December. Addition of a moving target indicator in January improved performance by eliminating returns from the city's many buildings. The new radar could detect planes in the corridors up to 85 miles away. This allowed controllers to space planes at 10-mile intervals, regardless of altitude, by the time they were 50 miles from the city. The CPS-5 lacked an identification friend or foe feature, so controllers identified aircraft by ordering 45-degree turns. They adjusted spacing in similar fashion. These teams relieved much of the workload previously shouldered by GCA controllers, who were now free to concentrate on final approaches. Initially, the CPS-5 section controlled traffic moving to and from Tempelhof and Tegel. On 13 March, ten British controllers joined the group. From then on it controlled all Berlin traffic. Operating in three sections, one for each airfield, this Berlin Air Traffic Control Center was a major advance. Radar scopes were arranged in pairs, one for each airfield. The first controller tracked planes in the corridors, spaced them, and guided them to a point where they were handed over to his partner, who manned the "feeder scope." He vectored the plane



The CPS-5 radar atop Tempelhof allowed controllers to guide all traffic in and out of Berlin.

through the local pattern into the final approach, where the GCA controller took over. One of the pilots, Jack O. Bennett, recalled "the radar coverage from the ground was incredibly accurate. If our plane crept up or fell back, even a few feet, on the aircraft preceding us, radar would warn us to adjust our airspeed by a minuscule knot. We couldn't believe it was possible to fly this accurately." Two South African pilots had similar recollections. One day in February or March they "were a bit behind time and so turned a few miles short of [Frohnau] meanwhile calling 'Beacons.' A voice came back, 'Oh no you are not! You have a further 2 miles to go so please continue on your original course.'"¹⁵

¹⁵Study, 1946 CS, "The 1946th and the Berlin Airlift," n.d. [1949?], 56-61; "USAFE and the Berlin Airlift, 1948," 199-200; "USAFE and the Berlin Airlift, 1949," 112-13, 134; "USAFE Summary," 45-46; 1807 AACSW, "Berlin Airlift: Air Traffic Control History," n.d., microfilm reel

The combination of CPS-5, GCA, the new lighting, and airborne radar (which started being installed in the autumn and which half the C-54s had by January) was critical in defeating the bad weather. Because of the buildings around Tempelhof, minimums remained at 400-foot ceilings and one mile visibility, but at Tegel and Gatow planes could land with 200-foot ceilings and visibility of a quarter-mile. Generally, an experienced GCA crew could talk down one plane every five minutes; for periods of up to an hour, they could handle one every three. Missed approaches were rare. As the South Africans recalled, "it was very convincing to come out of the cloud ... [and] find the runway straight ahead." By the end of February, every US airlift base had two GCA sets. In its after-action report, USAFE judged GCA as "perhaps the greatest contributing factor to the success of the airlift," and BAFO's view was similar.¹⁶

Tunner introduced other improvements during the winter. In December, crews started radioing ahead to their home bases after leaving Berlin, reporting if their planes needed repairs and if they carried cargo.

That way the base could give them a quick and proper reception. Maintenance officers continued to save weight by removing excess equipment. Some bases stationed weather observers at the end of runways. By counting the approach lights they could see, the observers provided a more accurate estimate of visibility than people in the tower could do. That way the field would continue operations until weather reached the exact minimums. Rhein-Main started matching each hardstand by number to an aircraft. When a plane was inbound, the load was driven out to the hardstand and was there, waiting, when the plane taxied in. Three RAF stations started plotting what each aircraft was doing minute by minute, which highlighted the causes of excessive time on the ground. It showed that maintenance problems varied according to the number of sorties, not flying hours. Inaugurating quick inspections between flights cut the abort rate for Yorks in half to five percent of scheduled sorties.¹⁷



The Ground Controlled Approach (GCA) system made the airlift possible during the winter months. (*Task Force Times*, 1 December 1948)

Z-0039, USAFE/HO; Bennett quoted in Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 43; MacGregor and Hansen, "Berlin Airlift," 45.

¹⁶"USAFE Summary," 45, 47; "USAFE and the Berlin Airlift, 1949," 116, 129; MacGregor and Hansen, "Berlin Airlift," 45; BAFO Rpt, 27, 157.

¹⁷"USAFE and the Berlin Airlift, 1949," 27-28, 189-90; BAFO Rpt, 183-84, 295.

Tunner made a variety of mid-winter changes in flight operations that boosted tonnage. Celle opened 15 December, and the British and Americans were soon planning to station up to 57 Skymasters there. To make way at Gatow for Celle's planes, Fassberg now sent its planes to Tegel. A new runway also opened at Fuhlsbüttel 15 December. Fully equipped for night landings, the new strip promised to boost productivity of the charter companies, many of whom had moved to the field from Lübeck 5 October. In a departure from the norm, the British military government provided the support to the companies that the RAF did at other bases. In January, British and American officials revised the block system for the northern corridor to accommodate the increased traffic. Instead of each base launching planes in four-hour blocks, they now used blocks of two hours. Under the four-hour system planes had wasted too much time on the ground waiting for their block to start. The change helped smooth out the maintenance workload and ensured that a plane that missed its base's block would not have to sit idle for four hours until the next one.¹⁸

Supply was the biggest problem at the end of December, so much so that one analyst spoke of a "supply and maintenance crisis." There were a number of causes. One was the slow return of C-54s from 1,000-hour inspections in the United States. The logistical support needed by the new wave of C-54s lagged the planes by about a month. The effects could be seen at Fassberg, where utilization dropped by 30 percent, from 7.3 to 5.1 hours a day. There were continuing shortages of skilled mechanics and spare parts. C-54 engines remained in short supply. Another serious problem was the delay in opening the 200-hour inspections at Burtonwood. The buildings had deteriorated since the war, and much of the work force was busy with repairs, renovation, or new construction. Then, too, airlift support was not Burtonwood's main mission. The depot's chief customer was the B-29 force in Britain. Until January 1949, the depot was part of USAFE, which meant airlift work received some priority, but that month Third Air Division was reassigned directly to the Air Staff, and Burtonwood went with it. Tunner was reluctant to send planes to the depot because they were so slow to return, while Burtonwood complained that the erratic flow of C-54s into the depot was one reason why the turn-around time was so long. To speed things along, Washington sent 2,100 people to Burtonwood in the first three months of 1949. By April, the depot was averaging seven planes a day against a target of eight, and by mid-April it was averaging nine. In the meantime, Vittle's bases picked up the slack, doing 319 200-hour inspections on their own from November through March.¹⁹

Progress and innovations could be found elsewhere. The most frequent cause of C-54 engine failures was faulty spark plugs. A technician at the USAFE depot at Erding, Sergeant Harold E. Corner, developed a way to recondition them and save

¹⁸Williams to AOA, 29 Dec 48, AIR 55/204, PRO; "USAFE and the Berlin Airlift, 1948," 184; Percy, "Berlin Airlift," 200; BAFO Rpt, 142; "USAFE and the Berlin Airlift, 1949," 111-12, 117.

¹⁹"USAFE and the Berlin Airlift, 1949," 18, 23-24, 47-49, 52-53, 59; *Hist of USAFE, Feb 49*, 29.

money. New plugs cost 79 cents each. Corner rebuilt each one at a cost of 21 cents and saved the government thousands of dollars—the task force used 44,000 plugs a month. Another mechanic, Private First Class Edward R. Dillon, built a castings foundry to make new parts. Master Sergeant Paul LeBeau and some friends at Oberpfaffenhofen mounted a spare jet engine on a 6x6 truck for deicing aircraft. The truck was flown into Tempelhof and used there, and plans were made to use others at other bases. Also at Tempelhof, rebuilt buses provided warm, dry places for pilots to get their weather briefings and a quick snack, replacing the jeeps used since the summer.²⁰

Despite these dedicated innovators, commanders worried the average GI's morale and commitment were waning as autumn turned to winter. Flight surgeons reported "very large" numbers of crew members asking to be taken off flying status for medical reasons. The venereal disease rate, traditionally seen as an indicator of poor morale, was "excessive."²¹ USAFE thought the issue important enough to request a morale survey in November, and a team from European Command interviewed over 1,400 officers and enlisted men at Fassberg, Rhein-Main, Tempelhof, and Wiesbaden early in December. To no one's surprise, morale at Fassberg was lowest of the four, and best at Tempelhof and Wiesbaden. More than 80 percent of those interviewed at Fassberg rated bus service, mail, movie theaters, club facilities, recreational facilities, and supplies of tools and equipment worse than at bases where they had served before. Reflecting the congestion at Rhein-Main, complaints there centered on quarters, meals, transportation, and supplies; over 65 percent of respondents rated them as worse than other bases. Family separation and worries over how families were coping bothered over 90 percent of married men at all four bases. The survey team found that morale was highest among men who felt informed about the mission and thought it important, lowest among the ill-informed. It was hard to expect 110 percent from men who did not understand why they were in Germany or what was at stake. The biggest source of dissatisfaction, as everyone knew, was the indefinite length of tour of duty with the airlift. Crews and mechanics had deployed in July for 45 days, then had their tours extended to 90 and then 180 days. As the 180-day mark loomed, many expected to be extended again. Even as hard-nosed a commander as crusty Curtis LeMay thought this unfair.²²

Morale was not as serious a problem in the RAF, because most men were able to make brief trips home. Even so, the RAF learned a valuable lesson regarding morale and esprit de corps. During their autumn manning crisis, the British tended to pool air and ground crews, and it had not worked well. John Dowling, a York pilot, recalled, "We never knew the ground crew, we didn't even know what Squadron they were on.... I didn't know what squadron I was on." The RAF stopped pooling York mechanics at Wunstorf in December, dividing them into

²⁰"USAFE and the Berlin Airlift, 1949," 79, 82, 152. For the jet engine, see *TFT*, 11 Dec 48; "USAFE Summary," 103; and "USAFE and the Berlin Airlift, 1949," 370.

²¹Moseley, "Medical History," 1260-62.

²²Rpt, 7700 TI&E Gp, 24 Jan 49, App 28 in *Hist of USAFE, Jan 49*; LeMay and Kantor, *Mission with LeMay*, 418.

sections responsible for twelve or thirteen aircraft. The planes were so dispersed that mechanics wasted considerable time under the previous centralized system going back and forth; then, too, creating different sections fostered a spirit of competition. Schleswigland and Lübeck copied Wunstorf's example in January. All in all, BAFO concluded, squadron integrity "was a potent factor in the maintenance of a high morale."²³

The Americans pursued a variety of solutions to their more serious problem. USAFE responded with a troop education program that emphasized the importance of saving Berlin as a US national goal. Tunner continued to work tirelessly to improve working and living conditions for his people. He helped establish "ham" radio links so airmen could talk to their families. He worked with the British Navy, Army, and Air Force Institute and the US exchange services to have snack bars installed at each airlift base and stay open 24 hours a day. He arranged for Bob Hope, Garry Moore, and other Hollywood stars to bring touring shows to Germany. Movies started running at Fassberg three times a week in January, to packed houses. In another step to boost morale, USAFE authorized the award of the Air Medal for 100 Vittles missions.²⁴ Most important of all, in January 1949 the command announced a firm limit of 180 days for a Vittles tour.



Setting a definite limit on the length of a tour of duty with the airlift was a key personnel and morale issue. Rotations back to the States began in January, but Jake Schuffert suggests that some crew members were ready to leave early. (*Task Force Times*, 19 November 1948)

To solve one problem was sometimes to create another. Setting a definite length for a Vittles tour of duty boosted morale. It also meant serious shortages of experienced people in January and February, as people who had arrived in July and August completed their tours and left. Departures began 3 January, when the first six aircrew members left. A total of 402 were due to leave that month. Departures far exceeded replacements in February, leading to an almost complete turnover of air and ground crews and "serious shortages" in mechanics. One solution was to delay departures. In February USAFE held 275 officers and 1,425 enlisted members in critical specialties an

²³Dowling quoted in Sowrey *et al.*, 66; BAFO Rpt, 62, 155, 179-82.

²⁴"USAFE and the Berlin Airlift, 1949," 264, 314-15; BAFO Rpt, 61.

extra two months, which simply postponed matters 60 days. Another was to ask people on temporary duty to accept permanent assignments. USAFE began this program 18 January but found few takers. By the end of the month, of 1,100 officers and 6,100 enlisted men eligible to convert, only 28 officers and 19 enlisted had done so. Another remedy was help from the States. In March, USAFE received over 3,000 additional mechanics.²⁵

Another solution worked extremely well and strengthened the growing sense of partnership with the Germans, and that was to hire German mechanics. Tunner had obtained Clay's permission for this in the autumn, and the program shifted into high gear early in the new year to offset the American exodus. In February USAFE authorized up to 80 German mechanics in each troop carrier group. Language problems and unfamiliarity with US equipment were early problems but did not last long. Many former pilots and ground crew came forward, among them *Luftwaffe* General Hans-Herhudt Detlev von Rohden. He was instrumental in making this program a success. He helped recruit excellent, experienced people, and he arranged to have US maintenance manuals translated into German. Mobile US training units soon familiarized the new employees with Skymasters and their related support equipment. German-speaking US maintenance officers selected and trained German supervisors, and bilingual Germans were found to fill key positions. The RAF used German mechanics as well, though to a lesser extent than the Americans.²⁶

Last but not least, to everyone's relief, storms moved across Europe in late December, taking the fog with them. For once, Kuter remarked, "we welcome storms as friends."²⁷ The break in the weather came just in time. Coal was the critical cargo, and by early January stocks were down to 20-21 days' supply, the minimum planners wanted to have on hand at the end of February, seven weeks away. Western officials in Berlin took a calculated risk and cut back on deliveries of food for ten days to send more coal. That, plus the extra C-54s and Hastings and discovery of additional coal stocks in the city, provided the critical margin.²⁸ By 11 January, the pessimists on the BAFO operations analysis staff had turned into optimists. "Short of abnormal weather and other factors interfering with the airlift, there is no reason for doubting that stocks will remain adequate," they predicted. Weather, for once, cooperated. Temperatures in Berlin remained unusually mild throughout the winter. The average temperature in the city from December through February was typical of a normal late autumn or early spring.²⁹

²⁵*Hist of USAFE, Jan 49, 30-31; ibid., Feb 49, 19-20, 27; ibid., Mar 49, 16, 26; "USAFE and the Berlin Airlift, 1949," 239-42.*

²⁶Tunner, *Over the Hump*, 182-84; "USAFE and the Berlin Airlift, 1949," 90, 243; "USAFE Summary," 134; "Preliminary Analysis," 12, 23; BAFO Rpt, 60.

²⁷Kuter speech, "Vittles," USAFA Library.

²⁸"USAFE and the Berlin Airlift, 1949," 352; BAFO Rpt, 365.

²⁹Charlesby minute, 11 Jan 49, AIR 55/100, PRO; BAFO Rpt, 354.

The mild weather made a vital difference for Berliners, because it meant they needed less coal to keep warm. As it was, there was only enough for utilities and hospitals.³⁰ There was virtually none to heat homes. The *Magistrat* had asked for 750 pounds of coal per household for the winter. The British thought the Western powers could provide no more than 300. While Clay sympathized, he thought any allocation “will certainly be beyond our ability to fulfill.” Robertson worried that Berliners might crack. “Berlin winters are cold and the houses bad,” he argued. “To ask the people to go through the winter without any heating in their houses is clearly to put an inhuman strain upon them.” Again, Clay sympathized but believed the Berliners would endure. In the end, families had to make do for the entire winter on a ration of 25 pounds distributed at the end of November; families with small children or the elderly received slightly more. A limited cutting of Berliners’ beloved trees supplemented this scanty supply. Clay proved right on both counts. Berliners endured, and a larger coal ration would have exhausted supplies. As one British official noted later, “Had the planned distribution of space-heating coal been made, the airlift would have failed.” Three hundred pounds per household equaled 130,000 tons, and stocks at the end of December totaled only 70,000.³¹

Even with the mild temperatures, life in the city *was* hard. The war had cost Berlin three-quarters of its housing and now, three years later, reconstruction had barely begun. Several families might share a single room. Electricity was available for home use four hours a day at best, on a rotating schedule. Most families relied on natural gas for cooking, and supplies were less than half of normal. Low pressure made cooking a trial, and the intermittent supply was dangerous. Some people forgot to close the valves after the gas went off and were asphyxiated when it came back on.³² Hospitals were allowed to heat their rooms during the winter, but most factories, offices, schools and other public buildings went without heat. Daily meals were monotonous and unappetizing: dark bread and coffee for breakfast; pork or canned meat, cabbage, and soup based on dehydrated peas for dinner. Much of the dehydrated food was left over from the war, in poor condition, and barely edible. Portions were meager, the average ration through the winter being 1,600 to 1,880 calories a day. To vary the diet, vegetable gardens sprung up in available plots of ground, which helped until the winter frosts. Simple necessities like shoes became hard to find, and many children went barefoot. Interestingly, food and shoes were the items most frequently pilfered by laborers working on the airlift. (To thwart shoe thieves, airlifters shipped right shoes one day, left ones the next.)³³

³⁰Bennett, *Berlin Bastion*, 94-95.

³¹Robertson to Bevin 1086 Basic, 25 Aug 48, AIR 20/7804, PRO; Robertson to Williams, 1 Nov 48, AIR 55/215, PRO; Davison, *Berlin Blockade*, 315; “USAFE and the Berlin Airlift, 1949,” 352; Smith, ed., *Clay Papers*, 2: 890, 964; Charlesby minute, 11 Jan 49, AIR 55/100, PRO.

³²Charles, *Berlin Blockade*, 69; Davison, *Berlin Blockade*, 315; Tusa and Tusa, *Berlin Airlift*, 193.

³³Percy Winner, “Berlin Dreads the Winter,” *New Republic*, 119:15 (11 Oct 48): 16; Tusa and Tusa, *Berlin Airlift*, 313-14; Bennett, *Berlin Bastion*, 78-79; Davison, *Berlin Blockade*, 314; Lay, “Berlin Air Lift,” 2: 50-51.

It was hard to get around the city. The Soviets ran the *S-bahn*, the city's elevated railway, and allowed it to continue throughout Berlin, probably because closing it would damage Soviet interests as well as those of the West. Buses, streetcars, and subways operated intermittently and only during daylight; bicycles became the main mode of transportation for nearly everyone. Street lights were out in three-quarters of the city to save electricity.³⁴ To curb rising unemployment, private firms shortened hours, kept employees busy on maintenance or "make-work" projects, and the like. The city government did much the same, putting people to work on clearing rubble, repairing roads, or helping the airlift. Even so, the numbers of unemployed swelled from about 47,000 in June 1948 to 164,000 in May 1949, when the blockade ended.³⁵

Despite these privations, health remained remarkably good. The incidence of infectious diseases, for example, was below that of previous years. The death rate in the British sector in the third quarter of 1948 was 11.4 per 1,000 people, down from 14.9 two years earlier. Infant mortality dropped from 81 cases per 1,000 live births to 62 over the same two-year span. The marriage, divorce, and birth rates throughout the city remained virtually constant. The death rate might have been higher had the Western powers not arranged to evacuate some of the young and the elderly, who were most susceptible to the cold. By March 1949 the British had evacuated over 50,000 people, including 15,500 children, using Dakotas, Yorks, and Sunderland flying boats. Children traveled free; adults paid a small charge. Mothers accompanied children under five years of age. Over half the children went to relatives, one-fifth to foster parents, and another fifth to orphanages and children's homes.³⁶

Berliners endured, because they had little choice and because most refused to bow to Soviet coercion. A sense of humor helped. Berliners are known for their mordant wit, and it did not fail them during the blockade. One joke making the rounds went as follows: "If there must be a blockade, then it's better to be blockaded by the Soviets and fed by the Americans. Just imagine if it were the other way round!"³⁷

There was more substance to this jest than one might think. As William Stivers has shown recently, the blockade was not as complete as we have thought. Considerable smuggling, plus trade authorized by the Soviets, went on between East and West Berlin and between the latter and the Soviet occupation zone. Stivers believes perhaps one-fifth of all goods reaching West Berlin arrived in this

³⁴Charles, *Berlin Blockade*, 69; Davison, *Berlin Blockade*, 315-16; *Newsweek*, 32:3 (19 Jul 48): 22.

³⁵Tusa and Tusa, *Berlin Airlift*, 190; Bennett, *Berlin Bastion*, 150; Davison, *Berlin Blockade*, 316.

³⁶Barker, *Berlin Air Lift*, 54, 59; Davison, *Berlin Blockade*, 318-19; "USAFE and the Berlin Airlift, 1949," 206; Memo, DDASTO, 1 Dec 48, AIR 20/6891, PRO.

³⁷Davison, *Berlin Blockade*, 321.



The spirit of blockaded Berlin can be seen in the face of the crew, which held the record for the fastest unloading time.

way. Trade with the Soviet zone was particularly important in keeping factories and businesses open and unemployment rolls from swelling enormously.³⁸

February was the last critical month. Soviet hopes rose as the fog returned, closing Berlin airfields for 122 hours that month instead of the usual 87 and shutting down Fassberg for 129 hours instead of 48. Despite the fog, Berlin ended the month with the 21-day stocks planners had set as the lowest possible minimum.³⁹ It had been a very close call. Without the extra C-54s and Hastings, the CPS-5 and GCA, the spirit of innovation shown by Paul LeBeau, Harold Corner, Edward Dillon and dozens like them, the measures to boost morale, the added coal shipments of early January, General von Rohden and his German mechanics, the mild winter, or Berliners' belt-tightening, Stalin might have had his victory. Instead, all these things had allowed General Tunner to overcome General Winter. With spring just around the corner, he was about to go on the offensive.

³⁸William Stivers, "The Incomplete Blockade: Soviet Zone Supply of West Berlin, 1948-1949," *Diplomatic History*, 21:4 (Fall 1997): 569-602. Previous historians have discussed this issue but underestimated its scope. See, for example, Bennett, *Berlin Bastion*, 159; Morris, *Blockade*, 140-41; and Davison, *Berlin Blockade*, 196-97, 314.

³⁹*Hist USAFE, Feb 49, App XI; BAFO Rpt, 365-70.*



Air and ground crews of the US Navy Squadron VR-6 at Rhein-Main celebrate the end of the blockade, 12 May 1949

CHAPTER 5

WINGED VICTORY

General Winter made one last try to disrupt the airlift. March came in like a lion, with snow and gale-force winds followed by a cold snap. The airlift hardly missed a beat, averaging over 6,300 tons a day for the month, more than 1,500 tons higher than forecast. The rise owed much to better weather, but that was not the only explanation. Increased stocks of spare parts, a rise in Burtonwood's productivity, better manning levels, and the rising level of experience among replacement pilots all contributed to the boost in tonnage. The supply situation was so much better that Rhein-Main stopped sending its daily requisition to Air Materiel Command 1 February. Burtonwood inspected an average of 6.3 Skymasters a day in March and 6.5 in April, up from 2.9 in February. The arrival of the last contingent of Skymasters also boosted deliveries to Berlin. Clay had asked for 66; he received 78. Washington also stopped counting planes undergoing 1,000-hour overhauls against Colonel Milton's figure of 225 planes. By April, of the 444 C-54s in the US Navy and Air Force, 312 were committed to Vittles one way or another: 225 in Europe, 19 at Great Falls, and the remaining 68 in the maintenance pipeline. In another welcome trend, more C-54s returned from 1,000-hour inspections in the States during March and April (119) than flew west (109).¹

There were two positive developments on the British side. The first was the charter carriers came into their own in March. One reason was the British government started awarding 90-day contracts on 5 March. On 1 April British European Airways Corporation formed an Airlift Division under E. P. Whitfield to coordinate the charter carriers. Whitfield's office at first was in Berlin, and he relied on a small staff at each base to schedule flights. Efficiency improved 1 May, when Whitfield moved to Lüneburg, alongside Merer's headquarters. The results showed in increased deliveries: the companies lifted 9,200 tons in January, 10,500 in February, nearly 15,000 in March, over 16,000 in April, and nearly 23,000 in May.²

Delivering liquid fuel remained the companies' most important contribution. Three bases in western Germany handled this cargo: Wunstorf, Schleswigland, and Fuhlsbüttel. In Berlin, Gatow and Tegel received it. At first, the operation at Wunstorf

¹Tusa and Tusa, *Berlin Airlift*, 335; *Hist of USAFE, Mar 49*, 24, 29; "USAFE and the Berlin Airlift, 1949," 66-67; *Hist of CALTF, Mar 49*, 5, 15-17; *ibid.*, *Apr 49*, 8-9. For the C-54s, see Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 20; Royall to Johnson, 25 Apr 49, CD 6-2-9, RG 330, NA; Larson, "Berlin Airlift," 236.

²BAFO Rpt, 193-95, 232, 519; Whitfield to Williams, 4 Mar 49, AIR 55/216, PRO.

was improvised. Rail cars transferred their cargo to fuel trucks, which then pumped the fuel on board the waiting aircraft. Complicated and time-consuming, the procedure was marred by spills and was imprecise. Once underground tanks were ready in April 1949, fuel could be drained from rail cars into the tanks and then pumped onto planes. Schleswigland and Fuhlsbüttel had underground tanks when airlift operations began, and such a system was included in the designs for Tegel, where Standard Oil Company unloaded the aerial tankers. At Gatow, Shell Aviation Services handled the job. In February the fuel system at Gatow was streamlined when a pipeline opened between the airfield and Havelsee. Until then, fuel had been pumped out of the airfield's underground tanks into trucks, driven down to the lake, and transferred to barges. The trucks burned valuable fuel and the whole process wasted time. The three-kilometer line used sections of PLUTO, the "pipeline under the ocean" British and American troops had laid across the English Channel in 1944 to pump fuel to the Normandy beachhead. Some wit named the new line PLUME, for "pipeline under mother earth."³

By the end of the airlift, 25 companies had taken part. They flew a total of 103 planes, the maximum at any one time being 52 aircraft. For all the headaches they caused BAFO, the contract carriers made a vital contribution, flying nearly 22,000 trips to Berlin and delivering nearly 148,000 tons of coal, flour, and liquid fuels. That was twice the weight of mail and cargo carried by all British civil aircraft on scheduled service between 1924 and 1947.⁴

Improved command relationships were the other positive development in Plainfare. Merer, it will be recalled, had established an advanced headquarters of No. 46 Group in Germany in September to manage Plainfare. As group commander, he remained responsible for several stations in Britain, an awkward distraction. In December, the Air Ministry transferred those stations to No. 47 Group, allowing Merer to concentrate on the airlift, and it expanded his advanced headquarters to become a full group staff. Authority over the group remained divided. It was assigned to Transport Command but BAFO had control, at least for the next few months. The ministry gave BAFO administrative as well as operational control 1 April, and on 1 May it transferred the group outright to BAFO's books, ending divided control. In one last noteworthy change, Merer moved his headquarters from overcrowded Bückeburg to Lüneburg on 15 March.⁵

Tunner continued to adjust operations and increase efficiency. By the end of April Fassberg, Celle, and Wunstorf were sending planes to Berlin using a consolidated one-hour block. This was close to "continuous flow," which everyone regarded as the ideal. It meant loaded planes wasted less time waiting for their next block to start. Yet

³"USAFE Summary," 30; Barker, "Berlin Air Lift," 53; BAFO Rpt, 199, 227-28; Charles, *Berlin Blockade*, 116.

⁴Pearcy, "Berlin Airlift," 207-09; BAFO Rpt, 237, 519, 529.

⁵BAFO Rpt, 8-9, 142-44, 187; Air Min to BAFO *et al.*, COX.6496, 101920Z Dec 48, AIR 20/6891, and Air Min to Trans Cmd and BAFO AX.2431, 011652Z Apr 49, AIR 20/6893, both in PRO.

British pilots quickly learned the new system put a premium on careful scheduling and top-notch maintenance. Under the previous two-hour system, Wunstorf had launched 12 planes in 33 minutes. Now it launched eight planes in 21 minutes in the first hour and four planes in nine minutes in the second hour. A last-minute mechanical problem would probably not affect the first wave of eight planes, but there was not enough time for a crew in the second wave to transfer to a ground spare. Perhaps it was issues such as these that led Colonel Milton to tell CALTF logisticians at the beginning of April "we are now more concerned with maintenance than operations."⁶

By early 1949, the organizations contributing to the operation functioned as a well-coordinated team, and not only in the air. The network that balanced Berlin's needs and available airlift was functioning smoothly. By the twenty-fifth of each month, CALTF's traffic section forecast its tonnage capacity for the following month. An Air Staff Committee in Berlin consisting of representatives of the three Western commandants then set priorities and quantities for shipments into the city. A Berlin Airlift Coordinating Committee in Frankfurt then allocated to individual air bases the cargoes and tonnage to be lifted over the next two to four weeks. The Anglo-American Bipartite Control Office, also in Frankfurt, coordinated the gathering of supplies and their transportation to railheads near the airfields. At that point, the British and American armies took over, delivering them to planeside for their flight into Berlin. By spring, the airlift was close to Tunner's ideal steady rhythm. In March it delivered 93 percent of its food goal and 116 percent of its target for coal. In April the figures were 105 and 149 percent, respectively.⁷

Attention could shift to lesser problems, such as pilferage. While it was never extensive enough to affect the airlift, it did occur. Americans as well as Europeans were involved, in the western zones as well as in Berlin. Counterintelligence agents recovered truckloads of goods hidden in the woods near Rhein-Main and Wiesbaden. One countermeasure was to deliver cargoes to airlift bases and warehouses around the clock rather than storing them overnight. That reduced the need for guards, saved vehicles, and curbed theft. Theft was more serious in Berlin than in western Germany. The need was greater, and apparently supervision by Western soldiers was not as close as in the zones. About 100 workers at Tempelhof were fired for pilfering during the airlift.⁸

There was a small crisis in February when coal sacks ran short. Until then, the airlift had used duffel bags or British jute sacks. The duffels had been reused up to thirty times each, and the supply was now exhausted. So Tunner experimented with 10,000 paper sacks. These worked so well that by July they made up half the sacks used on the airlift. These four-ply bags could hold fifty pounds of coal and could be used up to three times. Costing less than a penny

⁶BAFO Rpt, 156; "USAFE and the Berlin Airlift, 1949," 95, 117.

⁷"USAFE and the Berlin Airlift, 1949," 202-06, 348-50; BAFO Rpt, 67; "USAFE Summary," 28.

⁸"USAFE and the Berlin Airlift, 1949," 198-99, 209; Lay, "Berlin Air Lift," 2: 50-51.

apiece, they were cheaper than the duffels or jute bags, even considering the latter's longer life, and they cut the cost of coal containers from \$250,000 a month to \$12,000. Sealed with wire, they also helped reduce coal dust.⁹

Not all was routine, for there continued to be moments of drama and danger. On a routine mission 13 March, Captain Harry K. Blake noticed oil suddenly streaming out of the left outboard engine of his C-54. He tried to feather the engine but it would not respond. After windmilling briefly the engine froze up. Torque sheared the still-spinning propeller from its shaft, and it speared into the inboard engine, destroying it. With two engines gone, the fully loaded plane dropped several thousand feet before Blake could regain control and reverse course for Rhein-Main, where he landed safely.¹⁰

As spring approached, the British and American air forces set ever-larger goals for themselves. Between noon Saturday, 15 April, and noon, Sunday, they staged what came to be known as the "Easter Parade." The idea had been Tunner's. Things were going too smoothly, he recalled, and he wanted to do something to keep his people from becoming complacent. His answer was competition. He would schedule a maximum effort with each unit lifting a load well beyond what it had ever done before. He settled on an overall target of 10,000 tons, about 50 percent higher than the airlift's best day so far. As on Air Force Day in September, it would be easiest to carry only one cargo, coal. The chief of staff at USAFE headquarters, Major General Robert W. Douglass, Jr., worried the all-out effort would mean less tonnage in the long run, because the maximum effort would leave everyone exhausted and tonnage would decline afterward. Tunner assured him that, although deliveries would drop back from the peak, they would settle at a plateau higher than the previous daily average. Tunner made no general announcement in advance, to avoid embarrassment if the task force missed the target. On Saturday morning, when each squadron's daily schedule was posted, everyone realized something big was happening. As word spread that other squadrons had unusually high quotas, too, the race was on.

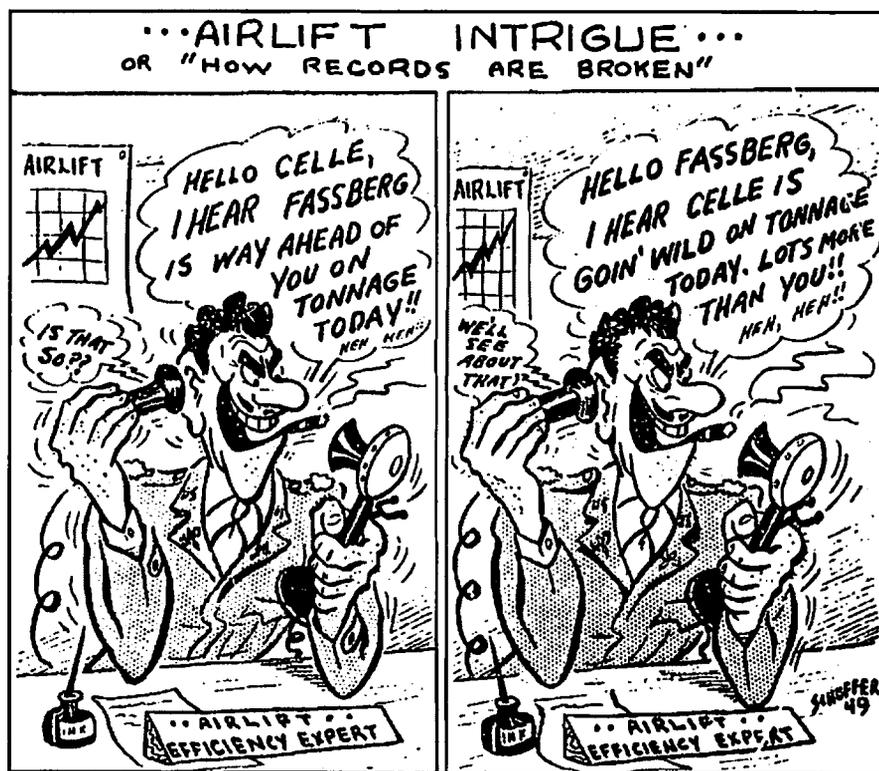
Tunner visited every base he could, spurring his commanders on. In one classic story, life imitated art. The two C-54 bases in the British zone, Fassberg and Celle, were bitter rivals. In February Jake Schuffert had drawn a cartoon of an airlift efficiency expert telling the two base commanders that the other was outperforming him. The caption read, "Airlift Intrigue, or How Records Are Broken." Now Tunner brought the cartoon to life. He stopped at Celle and was pleased to find it was 12 percent ahead of its quota. When he reached Fassberg, Colonel Coulter greeted him with a huge grin. His base was 10 percent ahead of its goal, Coulter announced with pride. "That's fine," Tunner replied, "but of course it's not up to what they're doing over at Celle. They're really on the ball over there." Coulter's smile vanished, and he raced back to the flight line to spur his men on. The spirit of competition and enthusiasm spread. The Army contingent at Tempelhof was proud that their crews

⁹"USAFE and the Berlin Airlift, 1949," 120-21; Lay, "Berlin Air Lift," 2: 52-53.

¹⁰*Hist of USAFE, Apr 49*, 13.

unloaded planes faster than air traffic control could launch them back to western Germany—on a day when a plane landed at one of Berlin’s three airfields every 62 seconds. Not everyone was pleased. Captain Zorchenko, the Soviet representative in the Berlin Air Safety Center, was not a happy man. “Your planes are coming in and out too fast,” he complained to his colleagues. “I cannot keep track of them.” He threw up his arms in exasperation and stormed out of the room. At noon Sunday, when the last plane touched down, 12,941 tons had been delivered in 1,398 flights, a truly phenomenal achievement.¹¹ What was more, as Tunner had assured Douglass, the daily average did not drop to its previous level. It climbed from 6,300 in March to 7,850 in April and over 8,000 in May and June.

The “Easter Parade” was the first test of the new US Army Airlift Support Command, organized the week before. The British Army had created a unified support command when Plainfare started, but the Americans had relied on existing units. Now they copied the British model and created one organization in charge of all US Army activities connected with the airlift. Colonel Calvin DeWitt, Jr., chief of European Command’s transportation division, had first proposed the idea in January 1949, and a



Jack Schuffert’s February cartoon would come to life during the “Easter Parade” less than two months later. (*Task Force Times*, 24 February 1949)

¹¹Tunner, *Over the Hump*, 219-22; “USAFE and the Berlin Airlift, 1949,” 188, 210. For Captain Zorchenko, see Murphy, “Berlin Airlift,” 229; and Harty, “The Airlift Soars On,” 12.

Department of the Army observer team visiting Vittles at the time had endorsed it. DeWitt's superiors disapproved his initial suggestion, citing two reasons. First, the commander should be a general officer, and there were none available; second, the organization's role at US bases in the British zone was unclear. General Palmer, Clay's logistics director, saw the merit in the idea after visiting airlift bases himself, and the European Command chief of staff, Major General Maxwell D. Taylor, gave the final go-ahead 28 March. Brigadier General Philip E. Gallagher, European Command director of posts and commander of the Frankfurt Military Post, was appointed commander of the new organization as an additional duty on 6 April 1949. He established his headquarters in Rhein-Main's operations building. His deputy, Colonel Eugene McGinley, replaced him 25 April and ran the organization until its inactivation in October.¹²

As the task force hummed along, its leaders drew up plans for a prolonged operation. In January the assumption was that the blockade would last two years or more. It was hard to see what would induce the Soviets to give up. While the airlift preserved the Western position in Berlin, it did not pressure Moscow to reverse course. That was what the Joint Chiefs of Staff had had in mind in October when they argued the airlift was not a permanent solution to the crisis. Thus the West faced the prospect of an endless blockade and a perpetual airlift, unless something intervened to cause Stalin to change his mind.¹³

Assuming the airlift would continue into 1950, USAFE and BAFO in December had recommended replacing Dakotas with Hastings and opening a third C-54 base in the British zone in order to meet a sustained target of 5,620 short tons a day. The British suggested Fuhlsbüttel, with the charter carriers there displaced to nearby Uetersen, but the Americans turned down the offer, citing poor accommodations. As an alternative, they suggested increasing the C-54s at Celle from 40 to 54 and developing Lüneburg as a long-term C-54 base.¹⁴

The two air forces completed a plan for a prolonged airlift in mid-February. The task force confronted an escalating set of targets: 7,824 tons a day in the second half of 1949; 7,769 tons a day between January and June 1950, and 7,798 tons a day from July 1950 onward. With 475 heavy aircraft, CALTF could lift over 11,000 tons daily; 8,000 tons required 372 aircraft (including 52 Dakotas). To exceed 9,000 tons, a new C-54 base had to be opened in the British zone. BAFO and USAFE accordingly recommended opening the new base, sending more planes, people, and spare parts, and laying

¹²"USAFE and the Berlin Airlift, 1949," 183-85; Lay, "Berlin Air Lift," 2: 13-16; Gallogly Rpt, 33, 44-46; *Hist of USAFE, Apr 49*, 56; "USAFE and the Berlin Airlift, 1949," App 6A, 6B.

¹³BAFO Rpt, 25. For views similar to those of the Joint Chiefs, see *FRUS, 1948*, 2: 1059-60; *ibid.*, 1949, 3: 127-29, 682-83; Royall to Acheson, 23 Mar 49, CD 6-2-9, RG 330, NA.

¹⁴Rpt, USAFE and BAFO, 22 Dec 48, AIR 20/10063, PRO; Cox to ACAS(Ops), 15 Dec 48, and Memo, 17 Jan 49, both in AIR 20/6891, PRO.

a second runway at Tegel. Three weeks later, even larger numbers were under discussion, with the goal for July 1949 through June 1950 set at 8,944 tons a day.¹⁵

There were not 475 large planes available. Keeping the force at current levels would be challenge enough. C-54 production had ended during the war and planners estimated worldwide attrition at two Skymasters a month. Sooner or later there would not be enough C-54s left to support Berlin. Indeed, in mid-March Tunner's fleet in Germany dropped below 225 planes when one C-54 crashed (with no fatalities, fortunately) and another left for maintenance. The Air Staff asked the joint chiefs to start diverting two planes a month from the Far East Air Forces to offset attrition.¹⁶

Secretary of the Army Kenneth C. Royall advised the new Secretary of Defense, Louis Johnson, in April that "considerable increase in the size and efficiency of the airlift during the next two years will be necessary to meet and maintain the requirements" set out in the long-term plan. By 1952 Vittles would need every C-54 in the Air Force. Daily requirements for the year starting 1 July 1949 were 8,685 short tons and 11,249 tons the year after. The present capacity was 6,436 tons a day. The task force could reach the targets easily if it could replace 50 Dakotas with C-54s, but the larger planes were not available.¹⁷ The British were slowly replacing Dakotas with Hastings, but not quickly enough. Several newer and larger US planes were entering production, such as the C-97, the C-118, and the C-124. They would not be available in quantity for several years, and none were particularly suited for an operation like Vittles. All three types were designed for long-distance missions, not short-haul operations. The C-118 was primarily a passenger plane. Runways would have to be lengthened and strengthened to support these larger machines, and integrating them into the traffic flow would recreate the problems with a mixed force that Tunner had tried to put behind him when he retired the C-47s so many months before. These were not insurmountable problems; neither were they easily overcome.

Drafting these long-term plans came at an awkward time for the RAF, because Transport Command had renewed its efforts to have more planes and crews released from Plainfare. Those released in September were not enough, it argued. Aircrew training was not offsetting losses, and the command's crews were rapidly losing their proficiency in long-distance trunk route flying. The War Office also complained that its parachute brigade was no longer operationally ready because of the lack of aircraft for jump training. The Air Ministry proposed on 13 December to withdraw two York and two Dakota squadrons, a total of 32 planes. Protests from Williams led the ministry to drop the idea, and attention turned to improved maintenance, increasing payloads,

¹⁵BAFO and USAFE, "Long Range Plan for Berlin Airlift," 14 Feb 49, and Memo, S.6 to ACAS(Ops), 10 Mar 49, both in AIR 20/6892, PRO; BAFO Rpt, 6.

¹⁶*Hist of USAFE, Mar 49*, 27; Byroade memo, n.d. [Mar 49], OAS 000.1 Germany/Politics folder, box 15, RG 335, NA.

¹⁷Royall to Johnson, 25 Apr 49, CD 6-2-9, RG 330, NA.

borrowing C-54s from the Americans (there were none to spare, of course), combing staffs for fliers, and the like.¹⁸

Another possibility was to set a limit on Plainfare tours like the Americans had just done. The trouble was that there were not enough crews to go around, and setting a tour limit could make things worse. Discussion of this option centered on the idea of releasing crews after a year or 300 to 500 Plainfare sorties. Who would take their places? There was no one. Another idea was to send crews to Plainfare for three months, followed by two months with Transport Command, on a perpetual cycle. Estimates in March were that the RAF was around 60 to 70 crews short to adopt such a plan, but they proved unduly pessimistic. The following month Transport Command was able to produce a rotation plan that stationed three-fifths of the force in Germany and the rest in Britain, with one squadron rotating each month, so each served three months in Germany and then two at home. The Air Ministry approved it in May and started it 1 June for York and Dakota squadrons. Hastings squadrons did not come under the scheme until September 1949 and then not fully.¹⁹

Another project to counter a prolonged blockade was construction of a new power plant in West Berlin. The Soviets had dismantled *Kraftwerk West*, a 228,000-kilowatt plant, in the summer of 1945, before Western troops entered the city. City officials had urged the Western powers to rebuild it as long ago as February 1947, but the project was still in its early stages when the blockade began. In January 1949, Western officials announced 5,000 tons of machinery would be flown in to rebuild the plant, including girders weighing up to 3½ tons each. Contrary to some reports, shipment had barely begun by early May. Twelve pieces were too large for any available cargo plane. Plans were to sling them underneath a bomber (a US B-29 or British Lincoln) but the blockade was lifted first and they arrived in Berlin by train.²⁰

Diplomatic developments made these long-term plans obsolete. Back in January, Western newspaperman J. Kingsbury Smith had submitted a series of questions to Stalin. This was fairly routine, and usually no answer ever emerged from the Kremlin's grim walls. Stalin chose to answer Smith's questions, one of which asked about Soviet terms for a settlement of the Berlin dispute. Stalin replied 31 January that Moscow would lift the blockade if the Western powers delayed setting up a separate West

¹⁸Mtg minutes, 13 Dec 48, and Walmsley to ACAS(Trg) *et al.*, both in AIR 20/6891, PRO; War Office to Air Ministry, 25 Jan 49, and Walmsley to Sanders, 26 Jan 49, both in AIR 20/6892, PRO. For British hopes of obtaining C-54s, see Air Min to BAFO MSX.850, 4 Feb 49, and Mins, For Off - Air Min Mtg, 25 Feb 49, both in AIR 20/6892, PRO; Mins, 7 Feb 49, 76543/C1107, FO 371, PRO; Extract of Mins, GEN/241 Committee, 7 Feb 49, AIR 20/7184, PRO.

¹⁹Memo, 17 Jan 49, AIR 20/6891, PRO; TO.1(a), Feb 49, and Rainsford to Walmsley, 25 Feb 49, both in AIR 20/6892, PRO; Sanders to AMP, 3 Mar 49, AIR 20/7148, PRO. DDASTO memo, 31 Mar 49; Mackworth to Henderson, 6 Apr 49; Walmsley to Mackworth, 5 May 49; and Trans Cmd to BAFO OX.1033, 14 May 49, all in AIR 55/218, PRO; BAFO Rpt, 25.

²⁰Collier, *Bridge*, 8; Davison, *Berlin Blockade*, 261; Charles, *Berlin Blockade*, 117-18; "USAFE and the Berlin Airlift, 1949," 123-24.

German government until the four foreign ministers held a summit. There seemed little grounds for optimism here, but Marshall's successor as Secretary of State, Dean G. Acheson, and his staff noticed Stalin had said nothing about Berlin's currency, the sticking point in diplomatic discussions since August. They thought this might be a subtle retreat. When American diplomat Philip Jessup on 15 February asked his Russian counterpart at the United Nations, Yakov Malik, if the omission was intentional, Malik promised to find out. He came back a month later to tell Jessup it had been.²¹

The delay is difficult to explain. The trouble with most explanations (such as the suggestion the Soviet dictator was stalling in the hope that winter weather might defeat the airlift) is that, if they were true, Stalin would not have hinted at retreat to Smith in the first place. Instead, Stalin may have taken a month to decide how to answer what he regarded as an *American* probe for terms. Telling Jessup the omission had been deliberate was admitting defeat. But confessing it had been accidental, that Soviet terms were unchanged, meant continued stalemate, a course that offered Stalin little. By mid-March, Stalin must have realized whatever leverage the blockade afforded was shrinking rapidly. At the end of January, there was still hope that winter would stop the airlift. Now there was none.²²



The Berlin Post Exchange mobile snack bar provided flightline service to air crews landing at Tempelhof. In January 1949 rebuilt buses replaced the jeeps originally used to bring crews refreshments.

²¹*FRUS, 1949, 5: 562; ibid., 3: 694-95; Charles E. Bohlen, Witness to History, 1929-1969 (New York, 1973), 283-84; Dean G. Acheson, Present at the Creation (New York, 1970), 267-70.*

²²Daniel F. Harrington, "The Berlin Blockade Revisited," *International History Review*, 6:1 (Feb 84): 109-10. If this speculation is correct and Stalin decided to abandon the blockade in March instead of January, the policy shift would coincide with some noteworthy personnel changes in the Soviet hierarchy. After ten years as foreign minister, Vyacheslav Molotov was replaced by Andrei Vyshinsky 4 March, and Sokolovsky was replaced on 29 March by Marshal Ivan Chuikov. Morris, *Blockade*, 141.

Time, it could be argued, was now on the West's side, not his. The attempt to seize Berlin had failed and in light of the airlift's proven capacity showed no signs of ever succeeding. Time worked against Moscow in other areas. The prolonged and highly visible spectacle of trying to starve Berliners for political gains had alienated German public opinion. The Russians were in the midst of a political competition with the West for the hearts and minds of all Germans. The blockade destroyed any prospects the German communists had in western Germany. East Germans, too, knew what was happening in Berlin. That, coupled with day-to-day contact with the Soviets, meant that even the East Germans hated the Soviets. The blockade had not stopped the London program. If anything, it ensured its success. The Western powers' plans for a separate West German government were not popular in Germany, because it clearly meant partition of the country. But the alternative in West German eyes seemed to be unity on Moscow's terms. What was happening in Berlin was the clearest warning against that.²³

The Soviets in Germany paid an economic price for the blockade, not just a political one. When they stopped the flow of goods from the West, they inflicted serious damage on the economy of the eastern zone. Intelligence reports reached Washington the first week of the blockade that Sokolovsky had held a meeting with industrial leaders from the zone and had been "greatly shocked" to learn how dependent it was on trade with western Germany. The Germans explained the lack of trade would hurt sugar refining, canneries, and the fishing industry, and that the zone's heavy industry "could not produce without the West."²⁴ This was bad news not only for the zone, but for the Soviets themselves, who were counting on siphoning off German industrial products and food surpluses as reparations. There was worse to come. In July, the British and Americans stopped rail and barge traffic between neighboring countries and eastern Germany across their zones. They also stopped shipments originating in their zones: reparations plus rail deliveries of coal, steel, machine tools, chemicals, dyes, and other industrial commodities. The rail deliveries from western Germany were considerable: 250,000 tons of coal, 30,000 tons of steel, and over 33,000 tons of chemicals a month. Copying the Soviets, the Western powers explained the restrictions were caused by "technical difficulties." They extended the embargo to road traffic in September; in January they introduced measures to prevent exports from West Berlin from reaching Soviet-controlled areas. The following month they stopped all freight movements across their zones to and from the entire Soviet bloc, as well as foot traffic to and from the Soviet zone. When Malik opened secret talks to end the crisis, one of his first questions was whether an end to the blockade would lead to "a full resumption of trade between the Zones," an indication of how effective the counter-blockade had been.²⁵

²³Davison, *Berlin Blockade*, 281-96; Drew Middleton, *The Struggle for Germany* (Indianapolis, 1949), 151-52.

²⁴Hillenkoetter to Truman, 30 Jun 48, box 249, PSF, Truman Papers, Truman Library.

²⁵Mins, OMGUS Staff Mtg, 10 Jul 48, box 5, OMGUS Minutes, Washington National Records Center; Davison, *Berlin Blockade*, 155, 264; Charles, *Berlin Blockade*, 46, 124;

Time worked against the Kremlin on a broader stage. The Marshall Plan was infusing new hope and vitality across western Europe and deepening transatlantic political and economic ties. By March 1949 Congress had authorized nearly five billion dollars in Marshall aid.²⁶ The program helped fuel western Germany's dramatic economic revival, which had begun with the currency reform in June 1948, and it promoted the integration of the western zones into the Western orbit. There were also Europe-wide security trends that ran counter to Soviet interests. Here, too, the blockade backfired, accelerating creation of an anti-Soviet military coalition. The Americans and Western Europeans had begun talking about a North Atlantic security pact long before the Russians blockaded Berlin. But the blockade made the threat from the Soviets appear clearer and more immediate. The North Atlantic treaty was nearing completion, and would be signed in Washington 4 April. Stalin could see that the blockade was creating exactly what he feared most: an organized and determined Western military alliance, centered on a United States willing and able to act in the defense of Western Europe. At Yalta in February 1945, President Franklin D. Roosevelt had essentially told Stalin the United States would turn its back on Europe when he said American troops would not stay on the Continent more than two years. Now the United States was committing itself to a central role in European military affairs for the indefinite future.²⁷

But, if the West was ready to bargain, perhaps something could be salvaged after all. According to notes by a German communist who was in Moscow in the spring of 1949, Stalin still seemed to think he could talk the Western powers into abandoning the London program.²⁸ When Jessup pressed Malik for further information on 15 March, the Soviet diplomat could say only that his instructions had covered Jessup's question and nothing else. The American asked Malik to press Moscow for details. This time it took only a week for Malik to return and the real haggling to begin. The Soviets tried to halt the London program in its tracks until the foreign ministers met, but the farthest the West would go was to indicate that the West German government would not be established before the summit convened. What could happen the day after the opening session was left to Stalin's imagination. Oddly, the two sides did not squabble over lifting the blockade, Malik agreeing almost at once it would end before the foreign ministers' meeting. Finally, on 4 May, the diplomats reached agreement. The Soviet blockade and the Western counter-blockade would end at one minute after midnight, 12 May, and the foreign ministers would meet 23 May in Paris.²⁹

Bennett, *Berlin Bastion*, 202; Jean Edward Smith, *The Defense of Berlin* (Baltimore, 1963), 127-28. For the Soviet question about a resumption of trade, see *FRUS*, 1949, 3: 706.

²⁶Davison, *Berlin Blockade*, 251.

²⁷Roosevelt quoted in *FRUS*, *Diplomatic Papers: The Conferences at Malta and Yalta*, 617, 628.

²⁸Wilfried Loth, "Stalin's Plans for Post-War Germany," in Gori and Pons, eds., *The Soviet Union and Europe in the Cold War*, 29-30.

²⁹*FRUS*, 1949, 3: 695-701, 751.

Ironically, now that the end was in sight and the airlift had triumphed, Soviet harassment of it peaked. With good flying weather returning, the Soviets began their spring maneuvers in March, and they took little care to stay out of the way of the British and American planes in the corridors. There were 26 cases of deliberate buzzing and a like number of cases of close flying (within 500 feet) in March. The figures for April were 12 and 10, respectively. In March alone, there were 96 incidents of clear intent to interfere with the airlift, one-quarter of all such incidents involving US planes during the airlift, which totaled about 360. Considering the airlift flew over half a million sorties (over 277,000 round trips to Berlin), the number is remarkably low. So, too, are the documented cases of sabotage, which total only four.³⁰ Why did the Soviets not do more to interfere? We do not have definitive answers yet. It does seem clear that they realized any such efforts ran serious risks of war. Berlin was not that important to Stalin in the end. Better to accept a political defeat than risk a military one.

The clock began ticking down 11 May. At an impromptu press conference in Washington, Dean Acheson praised the airlifters' "great morale, great discipline and superb courage," which had made the day possible. Later that evening, electricity from Soviet power plants began flowing once more into the British, French, and American sectors of Berlin. At one minute past midnight, a US Army jeep left the city headed west on the autobahn; five minutes later a British vehicle passed through the Soviet checkpoint at Helmstedt, bound for Berlin. Shortly thereafter, the first Western passenger train to enter the Soviet zone in over a year chugged across the zonal frontier. The Berlin blockade was over.³¹

³⁰*Hist of CALTF, Apr 49*, 19; Rpt, "Summary of Corridor Incidents, Aug 10, 48 to Aug 15, 49," App VII-B, "USAFE and the Berlin Airlift, 1949." For instances of sabotage, see "Preliminary Analysis," 22. Close students of the airlift may question the claim there were only 360 instances of Soviet harassment. For many years we have relied on a table that listed 733 incidents of Soviet "interference." The table summarized the report just cited, and even a brief perusal of the report makes clear pilots were instructed to report anything unusual they saw, not only attempts to harass or interfere with the airlift. Over half the incidents listed reveal no hostile intent at all. A June 1949 report about an unidentified object, for example, referred to a vapor trail 20 to 30 miles away. One crew reported flak in August 1949 about 40 miles away. A May 1949 case of deliberate buzzing was by an RAF York. Several reports about searchlights specifically state the lights "did not molest aircraft," "made no attempt to follow aircraft," or "extinguished itself immediately" when the beam touched the plane (3, 27 Jan; 3, 4, 15, 28 Mar 49). There were clearly cases of dangerous interference, including at least five cases of Soviet aircraft passing within 50 feet of an airlift plane. But the total is far less than we have thought. Whoever composed the table misleadingly converted the all-embracing category of "incidents" into "interference," and we've taken his product at face value for nearly 50 years.

³¹Memo for the Press, 11 May 49, box 68, Dean G. Acheson Papers, Truman Library; Tusa and Tusa, *Berlin Airlift*, 355; Gaddis Smith, *Dean G. Acheson* (New York, 1972), 90-91; Riddleberger to Acheson 700, 12 May 49, 740.00119 Control (Germany)/5-1249, RG 59, NA. For the Soviet order lifting the blockade, see von der Gablentz, ed., *Documents on the Status of Berlin*, 96-97.



Planes line up for take-off at Rhein-Main 4 March 1949 as a C-54 returns from Tempelhof, guided by GCA.

The blockade had ended, but the airlift had not; it was business as usual for the Combined Airlift Task Force on 12 May. The tally thus far was an impressive one: nearly 1.6 million tons flown in almost 196,000 flights. To celebrate, the task force launched 1,017 flights and another 6,906 tons arrived in Berlin. Bevin and Acheson had already decided the airlift must continue. No one expected any breakthroughs when the foreign ministers met in Paris 23 May. Their last hopes of stopping the London program thwarted, the Soviets might well re-impose the blockade.³²

There was no breakthrough in Paris, as expected, and there was no Soviet backlash, either. On the other hand, there was a new transportation crisis in Berlin 20 May, when workers went on strike against the Soviet railway system. Railway workers living in West Berlin wanted to be paid in *Deutsche Marks*, which the Western powers had made sole legal tender in their sectors 20 March. Until then the Western currency and the Soviet zone currency had circulated in West Berlin (the Soviets banned the D Mark and its West Berlin variant, the B Mark, at the onset of the blockade). Originally issued at par, the Soviet mark had depreciated markedly on the

³²Press Release, National Military Establishment, 13 May 49, microfilm reel Z-0039, USAFE/HO; Charles, *Berlin Blockade*, 137; *FRUS*, 1949, 3: 862.

black market against the D Mark. So people wanted to pay their bills in Soviet marks and be paid in Western marks, a chaotic situation. Paying wages in Western marks was a political and propaganda disaster for the Russians—not to mention an economic one, for they hoarded D Marks and paid out *Ost* marks whenever they could, like everyone else. They dug in their heels against the railway workers' demands.³³

The strike shut down the city's rail system, including the yards used to receive trains from the western zones, and affected rail traffic throughout eastern Germany. By early June, 33 freight trains carrying an average of 700 tons of goods for Berlin were stranded in the Soviet zone. Several hundred cars stood at the city's stations, waiting to be unloaded. Until the strike was settled (it would drag on until 28 June), there could be no question about relaxing the airlift.³⁴

Bevin in mid-June suggested establishing "at least" a four or five months' stockpile or about 1.1 million tons by 31 October, and Acheson agreed. In light of the rail strike and some Soviet restrictions on surface traffic, US officials wanted to continue the airlift at its maximum for at least another month, noting that Bevin's figure of 1.1 million tons was only about three months' stocks at an unconstrained winter consumption rate of 12,000 tons a day; up to 1.55 million tons might be needed. In mid-July it would be possible to reassess the situation. So flights continued. July proved to be the airlift's best month: over 250,000 tons. Coal made up 80 percent of the cargo, because food stocks in Berlin were high and more was coming in overland or from the Soviet zone.³⁵

Senior British and American military leaders met in Berlin 14 July. They concluded that at current rates the stockpile would be complete in 35 days, so it was time to slacken the pace and start sending people home. Steadily diminishing operations would wind up by the end of October. Beyond that, the Americans expected to keep a residual force of two groups of C-54s (72 aircraft) in Germany ready to respond to any new blockade; the British intended to retain two squadrons of Hastings (24 planes). The two air forces also would maintain the airfields needed to support a renewed full-scale airlift. The residual force could lift 2,000 tons a day. That, plus stockpiles in Berlin, would keep the city going while reinforcements arrived. Planners estimated the airlift could be back at full strength in 90 days.³⁶

³³Howley, *Berlin Command*, 265; Charles, *Berlin Blockade*, 139-44; *FRUS*, 1949, 3: 840-42.

³⁴Berlin Weekly Summaries 38 and 42, 3 Jun 49 and 2 Jul 49, file 800-3-1, vol. 835, RG 19, NAC; Smith, *Acheson*, 102; *FRUS*, 1949, 3: 842-55.

³⁵*FRUS*, 1949, 3: 832-35; *Hist of USAFE*, Jun 49, 150.

³⁶Robertson to Bevin 1011 and 1012, 14 Jul 49; BAFO to Air Min AX.684, 20 Jun 49; CP(49)154, 15 Jul 49; and CM(49)46, 18 Jul 49, all in AIR 20/6894, PRO; BAFO to Air Min AX.713, 141300Z Jul 49, AIR 2/10573, PRO; Hays to Voorhees CC 9151, 14 Jul 49, "OAS 580.Germany" folder, box 17, RG 335, NA. Memo, Johnson to Souers, 25 Jul 49, and Memo, Souers to Truman, 28 Jul 49, both in box 193, PSF, Truman Papers, Truman Library.

The phase-out began 1 August, when the two Navy squadrons and the 317th Troop Carrier Wing at Celle stopped operations. Out in Montana, the training unit at Great Falls also closed. C-54s started westward across the Atlantic 3 August, with the first R5Ds following three days later. The British began by relieving most of the Dakotas and closing down the charter carriers. Captain Villa of Eagle Aviation flew the last charter mission, as Handley Page Halton G-AIAP landed at Tegel at 1:45 a.m. 16 August. The tempo began to slow. The task force took its first weekend off in over a year 13 and 14 August, when Tunner shifted to a five-day work week. Gatow suspended night operations 22 August, and Fassberg and Tegel stood down five days later. The Dominion crews left in the second half of August, New Zealanders first, followed by the Australians and South Africans. Wunstorf, where the British operation had begun, made its last contribution to Plainfare on 29 August, a York piloted by Flight Lieutenant L. A. Miller of No. 511 Squadron. As departures increased, tonnage to Berlin declined. The airlift carried about 78,000 tons into the city in August, less than a third of what it had delivered in July. In September, the total dropped to 16,000 tons.³⁷

As the operation wound down, there was no longer a need for CALTF headquarters. It inactivated 1 September. That same day, Brigadier General Edward H. Alexander took command of the 1st Airlift Task Force from General Tunner, bringing his role in Vittles to an end.³⁸ There were three other noteworthy events in September, all last flights of one kind or another. Flight Lieutenant D. J. Harper piloted the last Hastings mission on 6 September, a load of coal from Schleswigland. On the twenty-third, the last Dakota, KN 652, landed at Gatow at 7:22 p.m., with Master Pilot Brown at the controls. Its nose bore an inscription: "Positively the last load from Lübeck—73,705 tons—Psalm 21, Verse 11." As historian Roger Miller has written, for those who knew their Bible or took the time to look, the reference to Scripture proclaimed victory: "For they intended evil against thee; they imagined a mischievous device, which they were not able to perform." A week later, at 6:45 p.m. on 30 September, the last C-54 left Rhein-Main. Captain Harry D. Immel, Jr., was in the pilot's seat of 45-510, flying his four hundred and third Vittles mission. Other members of the crew were First Lieutenants Charles M. Reece (325 missions) and James C. Powell (120 missions), Technical Sergeant Matthew M. Terrenzi (over 40 missions), and Staff Sergeant Jerry G. Cooksey (over 180 missions). The Skymaster touched down at Tempelhof at 8:30 and delivered its cargo, two and a half tons of coal. The US Airlift Task Force inactivated a few hours later at one minute past midnight, 1 October. Merer's No. 46 Group headquarters returned to Britain 15 October. The Soviets did not interfere with Western access to Berlin over the next two months, so the RAF withdrew its two Hastings squadrons in December. The two US troop carrier groups stayed on in

³⁷*Hist of Atlantic Division, MATS, 1949*, p 50, microfilm reel A-3024, AFHRA; BAFO Rpt, 149, 237; "USAFE and the Berlin Airlift," 331-34. USAFE/CG CALTF DMT 2161 to 46 Gp, 301430Z Jul 49; BAFO to 46 Gp *et al.* AO.225, 121230B Aug 49; and BAFO to 46 Gp *et al.* AO.238, 15 Aug 49, all in AIR 55/219, PRO; Trans Cmd to 38 and 47 Gp APX.672, 13 Aug 49, AIR 20/6894, PRO; Pearcy, "Berlin Airlift," 210.

³⁸BAFO Rpt, 552; 1ALTF GO-7, 1 Sep 49.

Germany.³⁹ The Berlin airlift passed into history triumphant, having proven Curtis LeMay right after all: air forces *can* deliver anything!



The last Vittles flight left Rhein-Main on 30 September 1949 at 6:45 p.m. Crewmembers were Captain Harry D. Immel, Jr., Lieutenant Charles M. Reece, Lieutenant James C. Powell, Staff Sergeant Jerry G. Cooksey, and Technical Sergeant Matthew M. Terrenzi. Between them, they had flown over 1,068 missions during the airlift. Task force commander Brigadier General Edward H. Alexander (left) congratulates them on their achievement.

³⁹Pearcy, "Berlin Airlift," 210; Roger G. Miller, *To Save a City: The Berlin Airlift, 1948-49* (Washington, D.C., 1998), 108; BAFO Rpt, 149, 529, 552; Malcolm Muir *et al.*, *Newsweek's History of Our Times*, vol. 1 (New York, 1950), 153; Roger Launius *et al.*, *Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command, 1941-1991* (Scott AFB, Ill., May 1991), 71; USAFE GO-162, 2 Sep 49; Air Min to BAFO and Trans Cmd AX.7384, 7 Dec 49, AIR 20/6894, PRO.

EPILOGUE

THE LEGACY OF THE BERLIN AIRLIFT

The Berlin airlift remains without parallel in the history of airlift and humanitarian operations. Some humanitarian airlifts have lasted longer; some may have flown longer distances. None have matched the amount of supplies delivered or the intensity of operations. For example, the international airlift in the former Yugoslavia flew 177,067 short tons to Sarajevo from July 1992 to January 1996, a 41-month period. CALTF lifted more in March 1949 alone. It did so again every month through July.

Success came at a price. Thirty-two Americans died (28 members of the US Air Force, one Navy petty officer, one Army private, one Army corporal, and one civilian). The British lost 39: 15 members of the RAF, one Army sergeant, one Australian, one South African, and 21 civilians employed by the charter companies. Germans, also, lost their lives during the airlift. The number usually given is nine, but some sources report twelve. The number may be as high as fourteen: seven men working on the airlift plus seven passengers on an RAF Dakota that crashed on final approach to Lübeck 24 January 1949. Appendix 2 contains additional information on fatalities.

There were other costs, of course. The US suffered 126 accidents, 12 of them fatal, and lost 22 wrecked aircraft. Of 76 major accidents, 37 occurred during approach and landing, 17 in flight, 11 while aircraft were taxiing, six during take-off, and five were classed somewhat mysteriously as "other." According to one report, four planes were lost when fires swept through hastily constructed wooden maintenance docks. Taxiing accidents predominated among the 50 minor US accidents, totaling 32. There were nine minor accidents in flight, six during approach and landing, two during take-off, and one charged as "other." The US aircraft accident rate in Vittles was half that of the Air Force as a whole. The RAF categorized its accidents differently. It suffered a total of 130, of which five involved loss of life. Of the total, 60 were due to aircrew error, 50 were caused by ground crew errors, 14 stemmed from technical failures, and six were due to weather. The charter carriers suffered seven aircraft accidents, four of them fatal, plus four men killed in two separate ground accidents.¹

That the toll was not higher was a tribute to the professionalism and training of air and ground crews, the talents of CPS-5 and GCA controllers, and commanders'

¹"USAFE Summary," 65-67; BAFO Rpt, 33, 405. For the four planes lost due to fires in wooden maintenance docks, see "Preliminary Analysis," 43.

emphasis on safety. Standardization was an essential step toward a safe operation, and integrating pilots from so many different organizations (the US Air Force, US Navy, RAF, French Air Force, and the air forces of the three Dominions, not to mention the charter companies) so that they all followed the same procedures was no mean feat. CALTF accomplished it through a network of chief pilots and check pilots. A task force crew qualification board of experienced pilots drew up standard operating procedures, which the chief pilots and check pilots ensured were carried out in their groups and squadrons.²

In strictly financial terms, the airlift was a sizable expense at a time when the US defense budget totaled less than \$15 billion. The Secretary of the Air Force reported expenditures of \$252.5 million, including fuel, depreciation, and lost aircraft. Plainfare cost London £10.25 million (approximately \$41.3 million at the then-current exchange rate of \$4.03 to the pound). French and German expenses associated with the airlift are unknown. Whatever the overall total, no one in the West doubted the price had been worth every penny, shilling, franc and pfennig.³

As Secretary of the Air Force Stuart Symington wrote at the time, “the intensity of Operation Vittles telescoped a decade of air transport experience into a 1-year period.”⁴ The airlift marked the transition to the instrument flying age, with radar and GCA making possible round-the-clock operations in nearly all kinds of weather. The operation reaffirmed many things Tunner and other airlift experts already knew. It demonstrated the value of large aircraft. Success would not have been possible using C-47s and Dakotas alone. Just as the larger Skymasters, Yorks, and Hastings were able to deliver greatly increased tonnage with the same number of planes, crews, mechanics, and landing times, so even larger planes would be more efficient still. Tunner was fond of pointing out to visitors that 68 C-74s, supported by 180 crews and 2,700 mechanics, could do the job required by 178 C-54s, 465 crews, and nearly 4,700 mechanics, or 899 C-47s, 1,765 crews, and almost 10,600 mechanics.⁵ It was a lesson the US Air Force took to heart. The C-74, with its 20-ton payload, proved merely a prototype for the larger C-124, which could carry 25 tons of cargo. As one might expect, the inter-theater jet transports that followed lifted even larger payloads: the C-141, 34 tons, and the massive C-5 a phenomenal 130 tons. The mainstay of the theater or tactical airlift fleet for the last 40 years, the C-130 Hercules, would have been a Vittles heavyweight, able to carry 20 tons of cargo.

These planes incorporated other lessons learned during the airlift. For example, they all take on their loads from the front or rear, along the axis of the fuselage. During

²“Preliminary Analysis,” 20-21.

³Annual Report of the Secretary of the Air Force, in Annual Report of the Secretary of Defense, FY 1949, 240; Charles, *Berlin Blockade*, 147.

⁴Annual Report of the Secretary of the Air Force, in Annual Report of the Secretary of Defense, FY 1949, 240.

⁵Launius and Cross, *MAC and the Legacy of the Berlin Airlift*, 15; Tunner, *Over the Hump*, 198-99, 224.

the airlift, Tunner and his men found that some bulky cargo that would have fit in the cabin could not pass through the side-loading doors on C-47s and C-54s. It was too large to turn 90 degrees and move into the cabin. This is one aspect of a broader lesson, which was transports should be designed from the start to carry cargo. Adapting planes intended to carry passengers, like the Gooney Bird or the Skymaster, sacrificed capacity.

The airlift's lessons were not limited to those associated with transport operations. What both air forces learned about the importance of unit integrity and identity for morale and efficiency was of nearly universal application. So were the limitations and drawbacks of subjecting people to temporary-duty tours of indefinite length. Vittles and Plainfare also highlighted the need for a clear chain of command and the importance of having one organization in charge. Unity of command within a theater of operations is fundamental to success. "Whenever large forces of specialised aircraft are sent to an overseas command that is not experienced in their operation," BAFO wrote in its after-action report, "they should be sent as part of a composite Task Force manned by their parent command. This Task Force would then come completely under the operational control of the theater commander at the outset and should subsequently become an integral part of the overseas command unless the operation is of a very short-term nature."⁶ The Americans worked on this basis from the day Tunner arrived; the RAF was still adjusting No. 46 Group's command arrangements in the spring of 1949.

One striking characteristic of the airlift was the fruitful balance of regimentation from above and initiative from below. "Willie the Whip's" insistence on standardization, precision, and an even rhythm have become legendary. In emphasizing that aspect of Tunner's management style, writers and historians have often conveyed a static impression: he arrived, laid down the law, and that particular policy or procedure lasted until the airlift ended. That confuses two different things, standardization at any given time and unvarying techniques for the duration of the operation. It also overlooks Tunner's striking openness to suggestions and innovation. He believed in "management by walking around," getting out and seeing how things were going, what problems his people were having, and how policies and procedures could be improved. The gripe session that produced the idea of using the beacons to adjust aircraft timing is but one example. As the BAFO after-action report commented, "The strong impression left with those closely connected with [the airlift's] direction was one of continuous experiment and evolution."⁷ Without constant adjustment, innovation, and improvement, the airlift doubtless would have failed.

The airlift also demonstrated that air power was more than the ability to use the third dimension to destroy targets in battle. Air power in its broadest sense is the ability to use the air (and now space) for any national purpose, and those purposes extend far beyond combat. Many times before the Berlin Airlift and countless times since,

⁶BAFO Rpt, 19.

⁷*Ibid.*, 145.

national leaders have used non-lethal air power to foster good will or provide humanitarian assistance. It is hard to imagine an instance in which the peaceful use of air power produced more important political consequences than the Berlin Airlift. It allowed the Western powers to avoid war while retaining their position in Berlin and pursuing their political and economic reforms in western Germany, which were critical for the future stability of Europe.

The airlift's political consequences did not stop there. It transformed relations between Germans, on the one hand, and the British, French, and Americans on the other. Berlin in 1947 was Hitler's former capital; by 1949 it was a symbol of freedom. During the blockade, Berliners proved their commitment to democracy and liberty and won the respect and admiration of pilots like Gail Halvorsen and politicians like Ernest Bevin and Dean Acheson. Berliners reciprocated, and a sense of partnership against a common foe inspired them to resist and endure. The city's example rallied Germans in the three western zones. US diplomat Charles E. Bohlen noted as early as July 1948 that the blockade and the airlift had produced "a political revolution" throughout Germany, as Western political stock soared and Soviet prospects plummeted.⁸ We can now see the Soviet political position in Germany (and indeed throughout Eastern Europe) was hopeless after 1949, propped up only by the bayonets of the Red Army.

On the other side of the Iron Curtain, the airlift came to symbolize the US commitment to European freedom, stability, and security. The crisis over Germany and Berlin marked the final parting of the ways of the former wartime allies, with the Soviet Union emerging as an implacable foe of the United States and its European partners. Berlin caught the attention of the American people in a way earlier East-West disputes had not done. It highlighted in the starkest possible terms the political and moral differences between the two emerging power blocs, and Americans responded. Secretary of State Marshall noted a "definite crystallization" of US opinion over Berlin in July and August 1948. "From all reports the country is more united in its determination not to weaken [over Berlin] than on any other issue we can recall in time of peace," he explained to the US ambassador in Moscow at the end of August. A Gallup poll the month before reported 80 percent of respondents favored staying in Berlin even if it meant war. We can now see in these numbers what historians called the "Cold War consensus," the public support for resistance to Soviet expansion around the world.⁹

News of the American commitment to Berlin and Germany energized western Europe like an electric shock, Ross Milton recalled.¹⁰ Although its practical political and military consequences were enormous, its psychological effects were perhaps more important. Until then, western Europeans doubted the United States had the will to make a long-term commitment to European affairs. Everyone remembered the US

⁸Memo, 29 Jul 48, box 5, Charles E. Bohlen Papers, RG 59, NA.

⁹*FRUS, 1948*, 2: 1085; George H. Gallup, *The Gallup Poll: Public Opinion, 1935-1971*, vol. 1 (New York, 1972), 748.

¹⁰Milton oral history interview, 5 Dec 75, CUOH.

return to political isolation after the First World War, and British leaders had pointed to American aloofness as partial justification for their own appeasement of the dictators in the 1930s. "It is always safest and best," Neville Chamberlain wrote, "to count on nothing from the Americans but words."¹¹

Western Europeans feared the United States might again withdraw after the Second World War. Indeed, rapid demobilization seemed to bear out FDR's words at Yalta. American forces remained in Europe beyond two years, but there were few of them. USAFE, for example, shrank from 367,000 men and women in uniform in June 1945 to 25,000 two years later. Plans were to trim it to 7,500 people and return all combat units to the States. The command's only missions would be to provide theater airlift and support B-29 units on rotational duty. Europeans' doubts about American power and the will to use it were still real in the summer of 1948. Bevin's first point when he met his advisers to discuss the blockade was "to be sure that the United States Administration would be solidly behind us if we made a stand in Berlin and that there would be no chance of their wavering."¹² Washington's conduct during the crisis put those worries to rest, and the United States and western Europe emerged from the blockade as formal allies, pledged to defend one another in the new North Atlantic Treaty Organization. Plans to reduce US forces were shelved, and American strength on the Continent began to grow. All told, one must agree with Mark Arnold-Forster's comment that the blockade was "one of the biggest mistakes Stalin ever made."¹³

When Curtis LeMay said the Air Force can deliver anything, he was thinking of tangible cargoes. Yet the Berlin Airlift delivered intangible cargoes, as well. It brought freedom, hope, and inspiration to Berlin, Germany, and Europe. Against long odds, it preserved peace. It demonstrated the potential of modern air transport as an instrument of policy, a diplomatic tool, and a helping hand to those in need. It delivered all LeMay said it could, and more.

¹¹Chamberlain quoted in Christopher Thorne, *Allies of a Kind: The United States, Britain, and the War against Japan, 1941-1945* (New York, 1978), 38.

¹²Thomas S. Snyder and Daniel F. Harrington, *Historical Highlights: United States Air Forces in Europe, 1942-1997* (Ramstein AB, Germany, March 1997), 218; William F. Sprague et al., *A Five Year Summary of USAFE History, 1945-1950* (Wiesbaden, Germany, May 1952), 68-86; Memo, 25 Jun 48, 70497/C5094, FO 371, PRO.

¹³Arnold-Forster, *Siege of Berlin*, 98.



In 1952 Berliners gathered at Tempelhof to dedicate this memorial to those who lost their lives in the airlift.



A C-54 and a C-47 flank the airlift memorial at the Frankfurt *Flughafen*, dedicated 26 June 1985.

APPENDIX 1

BERLIN AIRLIFT SUMMARY

TONNAGE DELIVERED							
26 June 1948 — 30 September 1949 (short tons)							
	US Tonnage	British Tonnage	Total Tonnage	US Flights	British Flights	Total Flights	Tons per Flight
Jun 48	1,199.0	347.0	1,546.0	474	139	613	2.522
Jul 48	39,971.0	29,034.7	69,005.7	7,550	5,978	13,528	5.101
Aug 48	73,658.1	45,344.5	119,002.6	9,770	8,372	18,142	6.560
Sep 48	101,846.7	37,776.2	139,622.9	12,904	6,825	19,729	7.077
Oct 48	115,792.2	31,788.6	147,580.8	12,135	6,100	18,235	8.093
Nov 48	87,979.3	25,608.6	113,587.9	9,047	4,305	13,352	8.507
Dec 48	114,567.2	26,870.9	141,438.1	11,660	4,832	16,492	8.576
Jan 49	139,218.8	32,740.4	171,959.2	14,095	5,397	19,492	8.822
Feb 49	120,394.6	31,846.1	152,240.7	12,043	5,043	17,086	8.910
Mar 49	154,475.0	41,685.7	196,160.7	15,530	6,633	22,163	8.851
Apr 49	189,957.2	45,406.5	235,363.7	19,130	6,896	26,026	9.043
May 49	192,271.4	58,547.1	250,818.5	19,366	8,352	27,718	9.049
Jun 49	182,722.9	57,602.1	240,325.0	18,451	8,094	26,545	9.053
Jul 49	201,532.2	51,557.8	253,090.0	20,488	7,104	27,592	9.173
Aug 49	55,940.0	21,818.6	77,758.6	5,886	3,098	8,984	8.655
Sep 49	12,047.1	4,104.1	16,151.2	1,434	551	1,985	8.137
Total	1,783,572.7	542,078.9	2,325,651.6	189,963	87,745	277,682	8.375

Data from "USAFE Summary" are adjusted above to reflect RAF operational statistics for June 1948 in BAFO Report.

Not included above are French deliveries for their garrison of 800 metric tons (881.8 short tons) in 424 flights.

IN-BOUND CARGO				
	Food	Coal	Other	Total
US	296,319.3	1,421,118.8	66,134.6	1,783,572.7
UK	240,528.0	164,910.5	136,640.4	542,078.9
Total	536,847.3	1,586,029.3	202,775.0	2,325,651.6

OUT-BOUND CARGO		
US	UK	Total
45,887.7	35,843.1	81,730.8

PASSENGERS FLOWN			
	Inbound	Outbound	Total
US	25,263	37,486	62,749
UK	34,815	130,091	164,906
Total	60,078	167,577	227,655

The French also carried 10,000 passengers, inbound and outbound.

Appendix 1 Sources: Rpt, USAFE, "Berlin Airlift: A USAFE Summary," 12-13; Rpt, BAFO, "A Report on Operation Plainfare (The Berlin Airlift) [AP 3257]," Apr 50, 129; USAFE Press Release, n.d., as quoted in Roger Launius and Coy F. Cross, II, *MAC and the Legacy of the Berlin Airlift* (Scott AFB, IL, 1989), 58-59; "Un demi siècle de transport aérien militaire," *Air Actualités*, 485 (Sep 95): 45.

APPENDIX 2: BERLIN AIRLIFT FATALITIES

A. US FATALITIES DURING THE BERLIN AIRLIFT

Date	Name	Grade	Service No.	Location	Aircraft	Tail Number	Remarks
8 Jul 48	HAGEN, Carl von SMITH, George B. WILLIAMS, Leland V.	DA Civ 1Lt 1Lt	None AO 794 711 AO 686 293	NE of Wiesbaden	C-47	43-48256	Crashed into hill on approach
25 Jul 48	KING, Charles H. STUBER, Robert W.	1Lt 1Lt	AO 27 501 AO 56 312	Handjerystraße 2 Friedenau, Berlin	C-47	43-49534	Crashed on final approach to Tempelhof
24 Aug 48	DEVOLENTINE, Joel M. LUCAS, William T.	Capt 1Lt	AO 53 549 AO 715 565	Ravolzhausen, NE of Hanau	C-47	43-16036	Midair
24 Aug 48	DILTZ, Edwin C. HOWARD, William R.	Maj Capt	AO 423 920 AO 789 573	Ravolzhausen, NE of Hanau	C-47	43-15116	Midair
2 Oct 48	ORMS, Johnnie T.	PFC	RA 37 222 718	Rhein-Main	C-54	45-520	Ground accident
18 Oct 48	ERICKSON, Eugene S. VAUGHAN, James A. WINTER, Richard	1Lt Capt Sgt	AO 568 053 AO 862 809 AF 39 203 365	Near Rhein-Main	C-54	42-72688	Hit trees on approach
29 Oct 48	BURNS, George S.	Cpl	RA 34777365	Tegel	None	N/A	Construction accident
5 Dec 48	HARGIS, Willis F. PHELPS, Billy E. WELLS, Lloyd G.	1Lt Capt TSgt	AO 760 457 AO 55 141 AF 7 060 860	Fassberg	C-54	42-72698	Crashed on takeoff
11 Dec 48	CRITES, Harry R., Jr.	AMM3	USN 2945 831	N of Rhein-Main	R5D	USN 5602	Crashed on approach
7 Jan 49	RATHGEBER, William A. STONE, Ronald E. THEIS, Norbert H. WATKINS, Bernard J. WHEATON, Lowell A., Jr. WURGEL, Richard M.	Capt Pvt Cpl Sgt 1Lt 1Lt	AO 65 187 AF 15 199 071 AF 17 191 076 AF 15 101 399 AO 677 371 AO 826 341	15 mi NE of Blackpool, England	C-54	45-5543	En route to Burtonwood
12 Jan 49	BOYD, Ralph H. LADD, Craig B. PUTNAM, Charles L.	1Lt 1Lt TSgt	AO 691 225 AO 687 483 AF 17 146 457	Near Rhein-Main	C-54	42-72629	Crashed on approach
18 Jan 49	WEAVER, Robert P.	1Lt	AO 527017	6 mi E. Fassberg	C-54	45-563	Crashed on approach
4 Mar 49	STEPHENS, Royce C.	1Lt	AO 680 754	S corridor E of Fulda	C-54	44-9086	No. 3 engine fire
12 Jul 49	HEINIG, Herbert F. LEEMON, Donald J. VON LUEHRTE, Robert C.	TSgt 2Lt 1Lt	AF 15 061 938 AO 929 355 AO 757 344	Rathenau, N corridor	C-54	42-72476	Crashed en route from Celle to Tegel

APPENDIX 2

B. BRITISH MILITARY FATALITIES DURING THE BERLIN AIRLIFT

112

Date	Name	Grade	Crew Psn	Aircraft	Location	Remarks
19 Sep 48	GILBERT, L. E. H. KELL, G. THOMSON, H. W. TOWERSEY, S. M. L. WATSON, E. W.	Nav II Flt Lt Flt Lt Sig II Eng II	Navigator Co-pilot Pilot Signaller Flt Engr	York, MW 288	Wunstorf	Engine failure on takeoff
17 Nov 48	DOWLING, F. LOUGH, B. A. TREZONA, F. WILKINS, J. G.	Sgt Sig III Pilot I Flt Lt	Passenger Navigator Pilot Co-pilot	Dakota, KP 223	Russian zone, near Lübeck	Bad weather; night
24 Jan 49	GROUT, J. D.	Sig II	Signaller	Dakota, KN 491	Russian zone, near Lübeck	7 German passengers killed
22 Mar 49	PENNY, A. QUINN, M. J. REEVES, K. A.	M Sig Flt Lt Flying Ofcr	Signaller Pilot (RAAF) Nav (SAAF)	Dakota, KJ 970	Lübeck	
16 Jul 49	DONALDSON, I. R. DUNSIRE, A. GIBBS, R. R. PAGE, W. G. TOAL, J.	Flying Ofcr Sig II Engr II Nav I Sgt, Army Glider Regt	Pilot Signaller Engineer Navigator Co-pilot	Hastings, TG 611	Tegel	Faulty trim on takeoff

NOTE: The Berlin Airlift memorials list another British military member, Signalman R. C. Marks, as an airlift fatality. British records indicate Marks died in a traffic accident near Hamburg on 3 June 1949. The archives unfortunately contain no details regarding the accident and do not indicate whether Marks was performing duty related to the airlift when he died.

APPENDIX 2

C. BRITISH CIVILIAN FATALITIES DURING THE BERLIN AIRLIFT

Date	Name	Crew Position	Aircraft	Company	Location	Remarks
23 Nov 48	BURTON, Alan John CASEY, Michael Edwin CUSACK, William HEATH, Reginald Merrick Watson ROBERTSON, Dornford Winston SEABORNE, Kenneth Arthur TAYLOR, Cyril	Nav Off Nav Off Captain Captain Radio Officer Flight Engr Captain	Lancastrian, G-AOJW	Flight Refueling, Ltd.	Thruxton, UK	Crash returning to UK
8 Dec 48	UTTING, Clement Wilbur	Captain	Ground accident	Airflight, Ltd.	Gatow	Hit and run
15 Jan 49	GRIFFIN, Patrick James O'NEIL, Edward SUPERNATT, Theodor	Grd Engr Grd Engr Grd Engr	Ground accident	Lancashire Aircraft Corp.	Schleswigland	Truck drove into propeller of RAF Hastings TG 521
15 Mar 49	EDWARDS, Peter James GOLDING, Cecil NEWMAN, Henry Thomas	Radio Officer Captain 1st Officer	York, G-AHFI	Skyways, Ltd.	Gatow	
21 Mar 49	FREIGHT, Robert John PATTERSON, Henry SHARP, James Patrick Lewin	Captain Engr Off Nav Off	Halifax, G-AJZZ	Lancashire Aircraft Corp.	Schleswigland	
30 Apr 49	ANDERSON, John CARROLL, Edward Ernest LEWIS, William Richard Donald WOOD, Kenneth George	Engr Off Nav Off Captain Radio Officer	Halton, G-AKAC	World Air Freight	N. of Tegel	

APPENDIX 2

D. GERMAN FATALITIES DURING THE BERLIN AIRLIFT

114

Date	Name	Location	Remarks
15 Jan 49	NEUMANN, Richard K. O.	Schleswigland	Truck collided with RAF Hastings TG 521 at night; 3 British ground engineers (passengers) also killed and one injured.
24 Jan 49	GASHOFF, Ursula GIESDLER, Gundrun KELCH, Emanuel KELCH, Irmgard LERCHER, Johann ZIMMERMAN, Gerti ZIMMERMAN, Silvia	Russian zone, 10 mi E of Lübeck	Passengers killed in crash of RAF Dakota KN 491
11 Mar 49	ZÜLSDORF, Kurt	Gatow	Policeman from Berlin-Spandau. Walked into prop of York MW 189 at night
Apr 49?	Unknown	Rhein-Main	Truck driver killed when drove gas truck into propeller of parked aircraft. (May be garbled report of 2 Oct 48 accident that killed PFC Johnnie Orms.)
Unknown	DÜHRING, Willi	Unknown	Transport worker, Berlin-Kreuzberg
Unknown	FIEDLER, Hans	Unknown	Transport worker, Berlin-Moabit
9 Apr 49	SCHLINSOG, Kurt	Tegel	Transport worker, Berlin-Luebars. Died of head injuries suffered in windstorm the previous day.
Unknown	SCHWARZ, Hermann	Unknown	Transport worker, Berlin-Kreuzberg
Unknown	ZÜLSDORF, Kurt	Unknown	Polizist, Berlin-Spandau (11 Mar 49?)

Appendix 2 Sources: Rpt, "Berlin Airlift Fatalities," n.d., Rpt, "Airlift Fatalities," n.d., and Ltr, Army Records Ctr to CINCUSAFE, 9 Oct 56, all on microfilm reel Z-0038, USAFE/HO; USAFE Press Release 4497-A, 28 Jul 49, microfilm reel Z-0039, USAFE/HO; *New York Times*, 8 Jan 49, p 4; Rpt, BAFO, "A Report on Operation Plainfare (The Berlin Airlift)," [AP 3257], Apr 50, pp 33-36, 239, 542, AIR 10/5067, PRO; Robert Jackson, *The Berlin Airlift* (Wellingsborough, UK, 1988), 151-54; *Hist of USAFE, Apr 49*, p 50; [Berlin Magistrat], *Airlift Berlin: A Report with Pictures* (Berlin, 1949); Rpt, RAF, "List of Civilian Occupants," n.d. (24 Jan 49); FAX, AFHRA to USAFE/HO, 9 Feb 98; Fax, RAF AHB to USAFE/HO, 13 Mar 98; Hirst to author, 21 Mar 98; Cox to author, 23 Apr 99.

FOR FURTHER READING

- Barker, Dudley, *Berlin Air Lift: An Account of the British Contribution* (London, 1949).
- Clay, Lucius D., *Decision in Germany* (Garden City, N.Y., 1950).
- Davison, W. Phillips, *The Berlin Blockade: A Study in Cold War Politics* (Princeton, 1958).
- , "The Human Side of the Berlin Airlift," *Air University Review*, 10:3 (Fall 1958): 64-73.
- Donovan, Frank, *Bridge in the Sky* (New York, 1968).
- Fisher, Paul, "The Berlin Airlift," *Bee-Hive*, 23:4 (Fall 1948): 3-31.
- George, Alexander L., and Richard Smoke, *Deterrence in American Foreign Policy* (New York and London, 1974).
- Gimbel, John, *The American Occupation of Germany: Politics and the Military, 1945-1949* (Stanford, 1968).
- , *The Origins of the Marshall Plan* (Stanford, 1976).
- Gross, Inge E. Stanneck, *Memories of World War II and Its Aftermath, 1940-1954* (Eastsound, Washington, 2005).
- Harrington, Daniel F., "The Berlin Blockade Revisited," *International History Review*, 6:1 (1984): 88-112.
- Harris, Arthur W. D., *et al.*, "A Special Study of Operation 'Vittles'," *Aviation Operations*, 11:5 (April 1949): 1-120.
- Herbert, E. O., "The Cold War in Berlin," *Journal of the Royal United Services Institute*, 94:574 (May 1949): 165-77.
- Huschke, Wolfgang J., *The Candy Bombers: The Berlin Airlift, 1948/49, A History of the People and Planes* (Berlin, 1999).
- Jackson, Robert, *The Berlin Airlift* (Wellingborough, U.K., 1988).
- Kahn, E. H., Jr., "A Reporter in Germany: *Die Luftbrücke*," *New Yorker*, 25:12 (14 May 1949): 37-61.
- Kuter, Laurence S., "The Berlin Airlift," in Eugene M. Emme, ed., *The Impact of Air Power: National Security and World Politics* (Princeton, 1959), 377-83.
- Larson, Deborah Welch, "Truman and the Berlin Blockade," in Larson and Stanley A. Reshon, eds., *Good Judgment in Foreign Policy* (Lanham, Md., 2003), 127-152.
- Larson, Harold, "The Berlin Airlift," in Alfred Goldberg, ed., *A History of the United States Air Force, 1907-1957* (Princeton, 1957), 235-41.
- Launius, Roger D., and Coy F. Cross, II, "MAC and the Legacy of the Berlin Airlift," (Scott AFB, Ill., 1989).
- LeMay, Curtis E., with Mackinlay Kantor, *Mission with LeMay* (Garden City, N.Y., 1965).
- MacGregor, P. L., and K. N. Hansen, "The Berlin Airlift," *South African Air Force Journal*, 1:3 (July 1949): 41-46.
- Miller, Roger G., *To Save a City: The Berlin Airlift, 1948-1949* (College Station, Texas, 2000).

- , “‘Victor Item Tare Tare Love Easy Sugar’: A Name for the Berlin Airlift,” *Air Power History* (forthcoming).
- Milton, T. R., “The Berlin Airlift,” *Air Force*, 60:6 (June 1978): 57-65.
- Moseley, Harry G., “Medical History of the Berlin Airlift,” *United States Armed Forces Medical Journal*, 1:11 (November 1950): 1249-63.
- Murphy, Charles J. V., “Berlin Airlift,” *Fortune*, 38:5 (November 1948): 89ff.
- Narinskii, Michail M., “The Soviet Union and the Berlin Crisis, 1948-9,” in Francesca Gori and Silvio Pons, eds., *The Soviet Union and Europe in the Cold War, 1943-53* (New York, 1996), 57-75.
- Naumann, R. D., “Medical Aspects of ‘Operation Vittles,’” *Journal of Aviation Medicine*, 22:1 (February 1951): 4-13.
- Nelson, Daniel J., *Wartime Origins of the Berlin Dilemma* (University, Ala., 1978).
- “Orion,” “The Berlin Air Lift: Operation ‘Plain Fare,’” *Journal of the Royal United Services Institute*, 94:573 (February 1949): 82-86.
- Pearcy, Arthur, *Berlin Airlift* (Shrewsbury, UK, 1997).
- Rearden, Steven L., *History of the Office of the Secretary of Defense*, vol. 1: *The Formative Years, 1947-1950* (Washington, D.C., 1984).
- Sharp, Tony, *The Wartime Alliance and the Zonal Division of Germany* (London, 1975).
- Shlaim, Avi, *The United States and the Berlin Blockade, 1948-1949: A Study in Crisis Decision-Making* (Berkeley and Los Angeles, 1983; p.b. ed., 1989).
- , “Britain, the Berlin Blockade and the Cold War,” *International Affairs*, 60:1 (Winter 1983/84): 1-14.
- Smith, Jean Edward, *Lucius D. Clay: An American Life* (New York, 1990).
- , *The Papers of General Lucius D. Clay: Germany, 1945-1949* (2 vols., Bloomington, Ind., 1974).
- Steege, Paul, *Black Market, Cold War: Everyday Life in Berlin, 1946-1949* (Cambridge and New York, 2007).
- Stivers, William, “The Incomplete Blockade: Soviet Zone Supply of West Berlin, 1948-49,” *Diplomatic History*, 21:4 (Fall 1997): 569-602.
- Tunner, William H., *Over the Hump* (New York, 1964).
- Tusa, Ann, and John Tusa, *The Berlin Airlift* (1988; p.b. ed., New York and London, 1998).
- Wood, P. R., “Thirty Years On: The Berlin Airlift — A Reassessment,” *Royal Air Force Quarterly*, 18:3 (Autumn 1978): 226-38.

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