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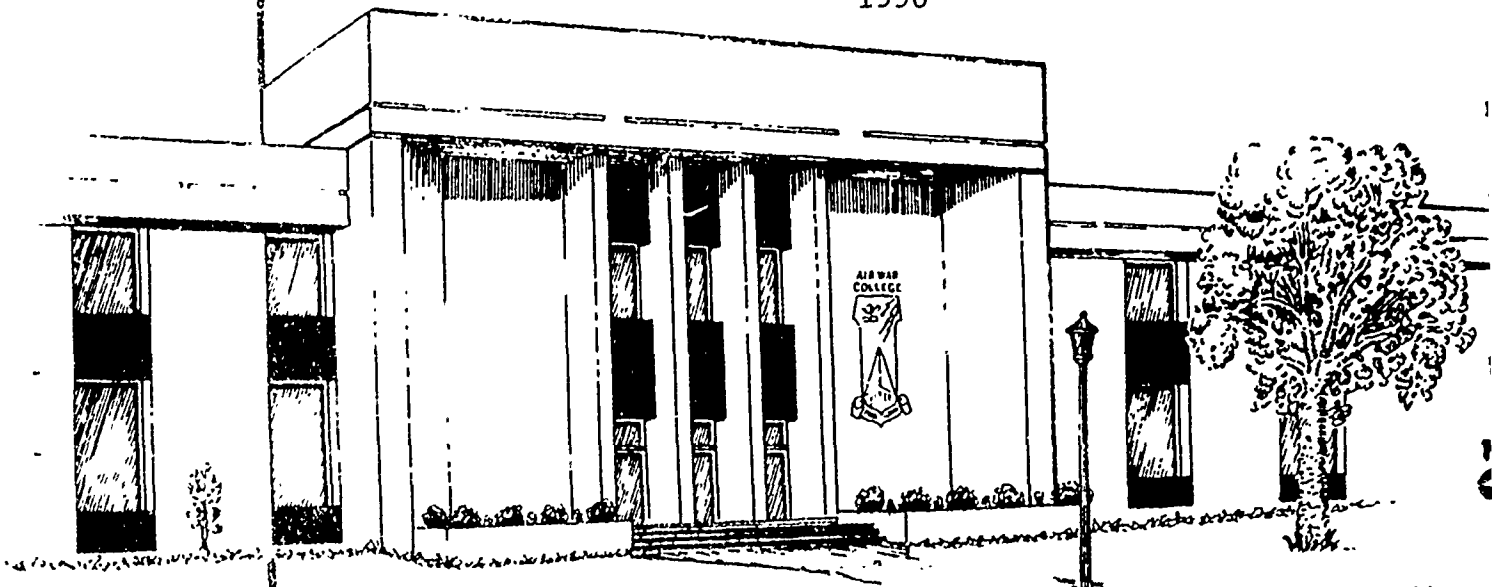
BERLIN AIRLIFT

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AIR UNIVERSITY
UNITED STATES AIR FORCE

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AIR WAR COLLEGE

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BERLIN AIR LIFT

BY

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COLONEL ROYAL SAUDI AIR FORCE

A DEFENCE ANALYTICAL STUDY SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

REQUIREMENT

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EXECUTIVE SUMMARY

TITLE: Berlin Air Lift

AUTHOR: Abdul Aziz Hasan Shokair

The Anglo-American airlift to supply Berlin when it was deprived of surface transportation in June 1948 was a dramatic undertaking. The closing of the roads, railroads, and canals into the city by Russians was a siege which, if successful, would have compelled the surrender of the German capital to Communists to prevent the starvation of the populace. The airlift broke the siege, something that had never before been accomplished by airpower. When the airlift started, no one believed that a city of over 2,000,000 people could be sustained exclusively by airborne supplies. It broke new ground in the logistics of airpower and was the first clear indication to the world that the Anglo-Americans would make a staunch stand against the spread of communism in Europe.

BIOGRAPHICAL SKETCH

Colonel Abdul Aziz Hasan Shokair is a member of the Royal Saudi Air Force. He is a graduate of the United Kingdom R.A.F. Linton Course in May 1969 as a pilot. Colonel Shokair completed Air Command and Staff College at AF Riyadh Saudi Arabia in 1972 and graduated with a master degree in Military Science. He has served as an operation pilot, Command Base Ops, and Commander of Training of a flying wing. He is a graduate of the Air War College Class of 1990 and is going back to command the Training Flying Wing in King Faisal Air Academy Riyadh Saudi Arabia.

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BERLIN AIR LIFT

1 - Introduction: It was the Western Allies finest hour in the immediate post-World War II years. It was a magnificent logistical effort, unparalleled in aviation history; to feed and support a city of more than two million people completely by air for more than ten months. It was a fateful time for the citizens of Berlin as they were given the opportunity to actively participate in an effort that would determine their political future and destiny. Because the Soviet Union had already subverted most of Eastern Europe, the success of the airlift in foiling the Soviet's attempt to force the Western Allies out of Berlin was a tremendous victory that signaled American's intention to stand firm against further Soviet expansion in Europe. (1)

2 - How Was Berlin Divided?

When World War II started, Berlin was the worlds largest city in the area and the fourth largest in population. Since the early years of the twentieth century, it had been the leading political and cultural center of Central Europe, the heart of its greatest single industrial complex. It was the nerve center of Hitler's national socialism, and by 1943, most of Europe was ruled from Berlin as a result of Nazi conquests in the early years of the War. (2)

In October 1943, prior to the meeting of Churchill, Stalin, and Roosevelt at Teheran, the foreign ministries of Great Britain, the Soviet Union, and the United States met in Moscow. One of the topics they discussed was the organization of Europe after the war. No concrete decisions were made, but it was decided to form the European Advisory Committee (E.A.C.) in London to study the problem and make recommendations. The three principal members of the EAC were John Winant, US Ambassador to Great Britain; Feodor Gusev, the Soviet Ambassador to Great Britain; and William Strang, a British Foreign Ministry official. On September 12, 1944, the EAC in London published a draft agreement signed by the representatives of the United States, Great Britain, and the Soviet Union stating that Germany was to be divided for the purpose of occupation into three zones and, a special Berlin area, which would be under occupation by the three powers. The boundaries were published for the three zones of Germany and the three sectors was left open pending further negotiations.

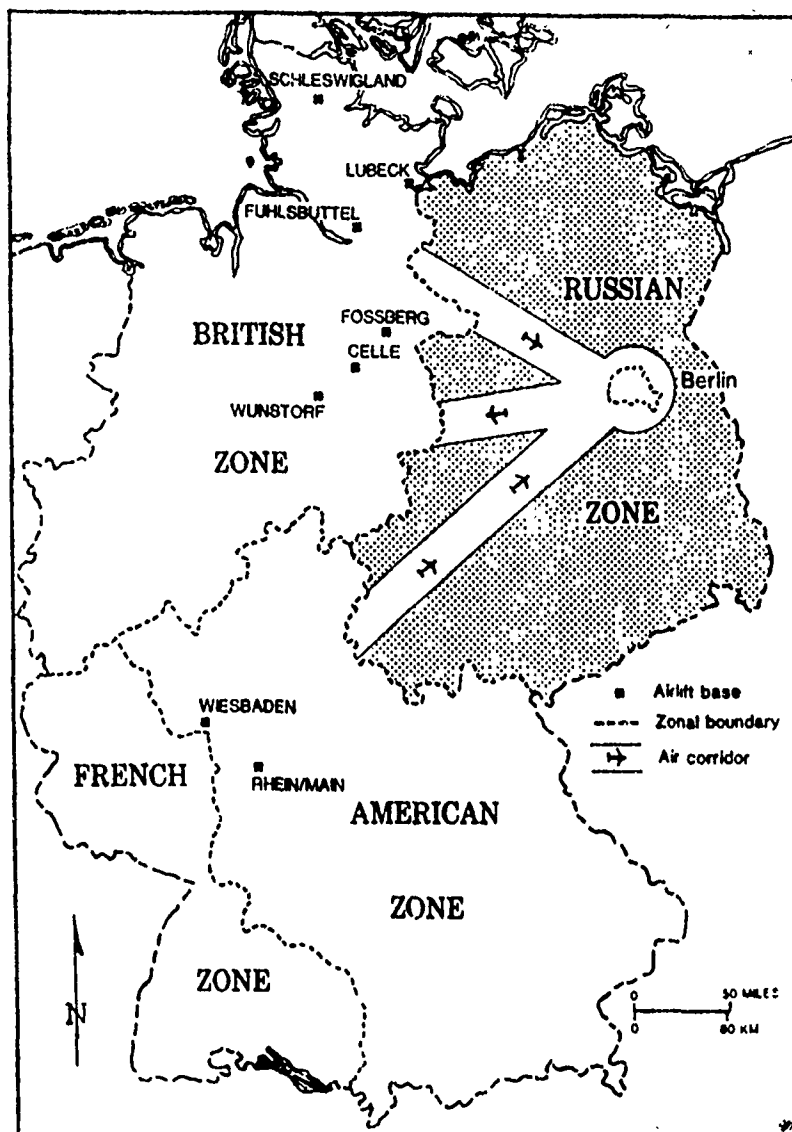
On November 14, 1944, the EAC published an additional agreement which set up the control authority for postwar Germany. It called for the Commander-in-Chief of the military forces of the three powers to constitute a supreme authority called the Control Council. It authorized the control council to direct the administration of greater Berlin through appropriate agencies. Another, not entirely unexpected development came with the liberation of Paris in August 1944 and the formation of

Prime Minister Winston Churchill, President Franklin D. Roosevelt and Premier Joseph Stalin on the patio of the palace in Yalta, where the "Big Three" met. In the rear are: Admiral Sir Andrew Cunningham, Admiral Ernest King, Air Marshal Portal and Admiral William D. Leahy, with high ranking Soviet officers, February 1945



Figure 1

a French Provisional Government under General Charles de Gaulle in October 1944. De Gaulle pressed for a French occupation to the idea of French participation. Churchill realized that the American and British publics would probably not permit large occupation forces for a long period of time and a strong France would be a barrier against any German military resurgence. At the Yalta Conference in February 1945, the end of the war in Europe was in sight. The EAC agreements of September and November 1944 were ratified by the three heads of State. Churchill proposed the three powers allocate France an occupation zone and a seat on the Control Council. After considerable discussion, all three leaders agreed France should have an occupation zone carved from the US and British zones, but Roosevelt and Stalin opposed giving France a Control Council seat. The matter was then referred to the foreign ministers who were also present at Yalta. Anthony Eden, the British foreign minister, insisted France would not accept a zone of occupation without membership in the control council, but the foreign ministers could not resolve the issue. Roosevelt then reversed himself and supported the British position. Stalin also relented and concurred. The negotiations on the boundaries of the French zone were left to the EAC. An amended agreement was signed on May 2, 1945 to indicate the French occupation zone. The French sector of Berlin was not defined, although it was understood that it would come from either the British or US sectors. The Soviet armies had captured Berlin and the US and



GERMANY: ZONAL BOUNDARIES,

Based on Kenneth W. Condit, *The History of the Joint Chiefs of Staff*

Figure 2

British armies had advanced far into what had been designed as the future Soviet zone of Germany.

On May 7, 1945, Germany surrendered. The four Allied commanders, Eisenhower (USA), Bernard Law Montgomery (GB), Georgi K. Zhukov (USSR), and Jean de Lattre de Tassigny (France) met at Zhukov's headquarters in Berlin on Tuesday, June 5, 1945. As called for in the EAC agreements ratified at Yalta, the four commanders signed the declaration of the defeat of Germany and the agreement for the control of postwar Germany. They affirmed the boundaries of the four occupation zones as previously agreed upon and that each of the four powers would have a sector in Berlin by that the dilemma of dividing Germany was over. (3)

3 - Why The West Forces Stopped Short Of Berlin?

The fact that the Russians were in Berlin, rather than the Americans or the English was, in hindsight, a strategic political error for which the Allied Supreme Commander, General Dwight D. Eisenhower, had accepted the blame. At the beginning of the final phase of the war, when the Allies landed on Normandy beaches to invade Europe on June 6, 1944, Eisenhower had named Berlin as their Chief objective in communiques to his three army group commanders. "Clearly Berlin is the main prize and the prize in defense of which the enemy is likely to concentrate the bulk of his forces. There is no doubt whatever

in my mind that we should concentrate all our energies and resources on a rapid thrust to Berlin."

During the ensuing months the Anglo-American strategy, as executed by Eisenhower, changed; as the Russians advanced toward Berlin from the east, the Americans swept across southern Germany from the west. In the north an Anglo-American army group of a million men, commanded by British General Sir Bernard L. Montgomery, was within striking distance of Berlin by the winter of 1944. By early spring the American army group commanded by General Omar Bradley had reached the Elbe River, from which a fine autobahn stretched 100 miles to Berlin. Both Bradley and Montgomery wanted to advance on the city. When the American Ninth Army crossed the Elbe on April 14, 1945 its commander, General William Simpson, pleaded with his superior for permission to strike for the capital. But Bradley had orders from his superior which read: "Take the necessary action to avoid offensive action in force including the formation of new bridgeheads east of the Elbe Mulde Line." General Eisenhower had changed his mind about the supreme importance of Berlin. In his unwillingness to oppose the Russians in picking the plum of the campaign, Eisenhower was following a policy that had been established at a higher level; a policy which led to years of cold war in which the possession of Berlin became a major concern.

General Montgomery was particularly forceful in his demand that the Allies take Berlin. He was convinced that if they did

not, the war would be lost politically regardless of the military outcome. In reply to his appeal, General Eisenhower wired: "That place has become, as far as I am concerned, nothing but a geographical location, and I have never been interested in these." General Montgomery went over Eisenhower and appealed to Prime Minister Winston Churchill, to whom the American Commander replied, "May I point out that Berlin is no longer a particularly important objective." Churchill then sent President Roosevelt a final plea in a prophetic cable in which he said, "If the Russians take Berlin, will not their impression that they have been the overwhelming contributor to the common victory be unduly imprinted in their minds, and may not this lead them into a mood which will raise grave and formidable difficulties in the future?"

It did raise "grave and formidable difficulties" but perhaps General Eisenhower was not solely to blame in his failure to recognize that Berlin was a "particularly important objective," politically, if not militarily.

4 - Why US Leaders Wanted The West Forces To Stop Short Of Berlin?

From the beginning of the war, President Franklin Roosevelt and many of his closest advisors were firmly convinced that future world peace was absolutely dependent on cooperation between Russia, the United States, and England. Roosevelt's original concept of the postwar world was one in which these states

would act as the three policemen in an otherwise disarmed world society. He was confident that Russia would cooperate in this endeavor. True, the Russians were suspicious of their western Allies. Historically, they had cause to be. But the American President was sure that these suspicions could be allayed. Of Russia's dictator, Joseph Stalin, Roosevelt said, "I think that if I give him every thing I possibly can and ask nothing from him in return, noblesse oblige, he won't try to annex anything and will work with me for a world democracy and peace." It took three years for the fallacy of this thinking to become fully apparent; a fallacy that was finally driven home to the US by the Berlin blockade. (4)

5 - Why The Blockade?

The Russians' intention was to put pressure on Western forces to leave Berlin; this was evident after Berlin's fall. They kept the city two months to themselves, and they used the time well to solidify their position. In hindsight, it became obvious that they had a clear purpose in Berlin from the first, which their allies did not recognize. Moscow regarded Germany as the key to the balance of political power in Europe; a communist Germany would, they hoped, mean a communist Europe. Important, for this was the communization of Berlin, for symbolic and psychological, as well as, economic and political reasons. Berlin was a prestige plum, the control of which would have far-reaching influence on public opinion, not only in Germany, but throughout Europe. (5)

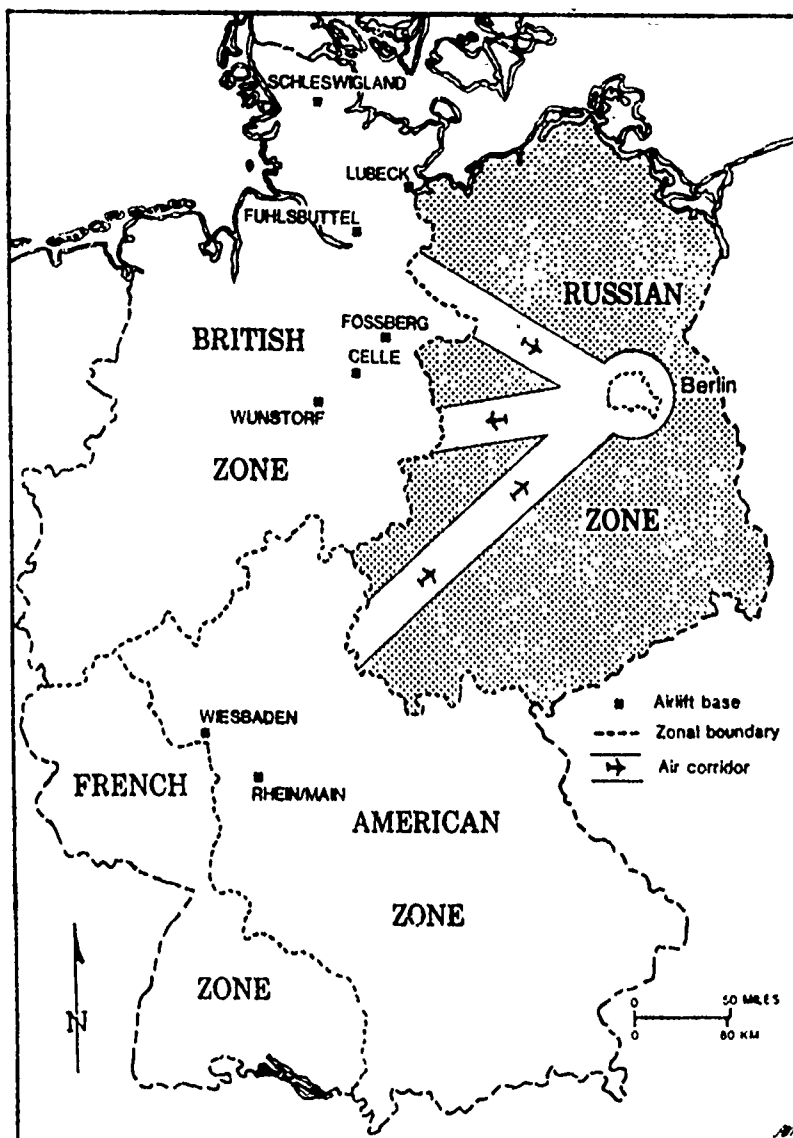
The second pressure on the west and the measures that ultimately led to the complete strangulation of traffic between Berlin and West Germany, started in 1948 when, on January 24, a British military train was stopped. This began a succession of incidents, each more provoking than the last. The Soviets demanded the right to board trains and check the identity of individual passengers. When this was refused, trains were shunted onto sidings for countless hours. Freight trains were held on the excuse that their cargos had to be examined, piece by piece, for smuggled items. Motor traffic on the autoban was reportedly halted on the grounds that the road had to be repaired. Finally, the Soviets refused to pass any military passenger train across the West German border enroute to Berlin unless baggage and passengers were checked and approved by the Russians. The Americans promptly dispatched a test train with armed guards to determine whether the Russians would attempt to use force. The train was electrically switched onto a siding, where it sat for some time before it ignominiously retreated. The Soviets repeated closing roads for repairs and forced cars to detour over dirt roads and across a small ferry. The Soviets seemed to be completely capricious in their interference with traffic. By the spring of 1948, it should have been apparent that matters in Berlin were approaching a showdown by the Soviet move to isolate the city and, by the time were fully committed to trying to force the Western Allies out of Berlin (6). On June 20, 1948, the Russians walked out of the Kommandature. There

was no longer a semblance of four power unity. Three days later teletypes of the Soviet sponsored news agency in the office of the newspapers of West Berlin typed out: "Berlin, June 23, 48 Transport Division of the Soviet Military Administration is compelled to halt all passenger and freight traffic to and from Berlin tomorrow at 0600 hours because of technical difficulties. It is impossible to reroute traffic in the interests of maintaining rail service, since such measures would unfavorably effect the entire railroad traffic in the Soviet occupation zone." Later, a second message proclaimed: "Water traffic will be suspended. Coal shipments from the Soviet zone are halted. The Soviet authorities have also ordered the central switching stations to stop the supply of electrical power from the Soviet zone and the Soviet sector to the Western sector. Shortage of coal to operate the plants is the reason." The autobahn was also closed to vehicular traffic due to "technical difficulties," the excuse that the Russians blandly advanced for what General Clay described as "one of the most ruthless efforts in modern times to use mass starvation for political coercion" (9).

6 - How Did It Work?

There were three effective Airlifts.

- a. The Air Corridors.
- b. Operation "Vittles" The USAF Airlift.
- c. Operation "Plainfare" The RAF Airlift.



GERMANY: AIR CORRIDORS, AND
AIRLIFT BASES, 1948-1949
Based on Kenneth W. Condit, *The History of the Joint Chiefs of Staff*

Figure 3

d. The Civil Airlift.

a - The Air Corridors

The Russians had agreed to Berlin being served by three air corridors, subject to the restrictions of passage over the Soviet zone imposed by the Quadripartite Agreement of November 1945. Each corridor was twenty statute miles wide (32 km) extending vertically from ground level to 10,000 ft (3,048m). Two terminated in the British zone, leading to Frankfurt. The two terminating in the British zone passed over comparatively flat country, the highest point of which was some 400 ft (122m) above ground level, whereas the Frankfurt corridor crossed high ground, rising to 3,000 ft (914m) close to the corridor's boundaries over much of its length. The Hamburg corridor crossed 95 miles (153km) of the Soviet zone from Berlin to the nearest point of the British zone; the Hannover corridor was 117 miles (188km) long and the Frankfurt corridor was 216 miles (347km). No radio or radar navigation aids were available in Soviet-occupied territory. All three corridors terminated in the Berlin control zone, a circular area of twenty statute miles (32km) radius from 52-degrees 30' N, 13-degrees 22' E - centered on the Allied Control Council's building. All British, American, and French aircraft had freedom of passage within this zone, except in the restricted areas surrounding the Soviet military airfields at Staaken, Schnewalde, and Johannisthal (7).

These air corridors were supervised by a four-power Air Safety Control.

b - Operation "Vittles:" The USAF Airlift June - December 1948.

The USAF began its Airlift commitment with one big advantage; it possessed the best-appointed air base in Western Germany. Largely destroyed by bombing during the war, Rhein-Main, near Frankfurt, had first been developed by Germany as a lighter-than-air base for the big commercial airships, the Graf Zeppelin and the ill-fated Hindenburg. Later, for most of the war, it had become an important Luftwaffe fighter base, and in the closing weeks of the conflict, it had been occupied by a United States Army Air Force P-47 Thunderbolt Group. After Germany's surrender, it was rapidly developed as a vital "gateway to Europe" for civil aircraft operations, as well as, becoming an important USAF sub-command.

At the start of the Berlin crisis, Rhein-Main was used by ten commercial airlines and was the European terminal for the USAF's Military Air Transport Service. Its "resident" USAF flying unit in June 1948, equipped with C-47s, was the 61st Troop Carrier Group, comprising the 14th and 53rd Troop Carrier Squadrons. Rhein-Main had a 6,000 by 150 ft (1,829 by 46m) runway, which was to prove adequate for airlift operations until the spring of 1949, when the tempo of Operation "Vittles" was stepped up and a new 7,000 by 200 ft (2,133 by 61m) runway was started. This project, however, was only twenty-percent complete when the airlift phaseout began. The other principal transport base in

Germany under the command of the United States Air Force, Europe (USAFE), was Wiesbaden, which had also been one of the Luftwaffe's top fighter airfields during the war. In 1948, it was the home of the 60th Troop Carrier Group, which on paper, comprised the 10th, 12th, and 333rd Troop Carrier Squadrons. In fact, the 10th TCS was unmanned. It was the 60th Troop Carrier Group which, in April, had carried out an experimental mini-airlift to Berlin on General LeMay's instructions. The American airlift operation really began with a telephone call from General Clay to General LeMay on the morning of 24 June. Would it be feasible, Clay wanted to know, for USAFE to airlift 500 to 700 tons a day from Rhein-Main or Wiesbaden to Tempelhof over a period of maybe four weeks? LeMay replied that it would and at once set the machinery in motion, appointing Brigadier General Joseph Smith to command the operation. At this point, the task was to supply the US garrison in Berlin, not the city's population, and LeMay indicated that it would last 45 days. The USAF public relations people, with their penchant for the dramatic, wanted to call the airlift operation "Lifeline" but a more moderate view won the day and it became known as operation "Vittles." Between them, the 60th and 61st Troop Carrier Groups had eighty C-47s. Within the hour, the word went out to various other USAFE locations and 22 more C-47s were added to the airlift fleet, making a total of 102--with the result that more than one US military VIP found himself without his personal transport aircraft.

On the first day of operation "Vittles," thirty-two C-47 sorties carried eighty tons of supplies to Berlin, mostly fresh milk, flour, and medicines. Three weeks later the US total had risen to over 1,500 tons a day--a considerable achievement, since Rhein-Main and Wiesbaden lay 267 and 281 miles (430 and 452 km) from Berlin respectively. Nevertheless, this early phase of operation "Vittles" was not very well organized. The aircrews involved had no experience in running a shuttle service of this type and administrative personnel of the Operations Division, HQ USAFE, had little idea about how the airlift was to be organized in order to derive the maximum use from the aircraft and to provide the necessary rest periods for their crews. After a month, exhaustion was beginning to set in and pilots were being reassigned to flying duties from ground tours to give the established aircrew some time off.

It was a highly unsatisfactory situation and one which required expertise in the organization of large-scale shuttle air transport operations. It arrived on 26 July in the shape of General William H. Tunner, who had been appointed to command operation "Vittles" by the USAF Chief of Staff and who had commanded the air supply operation over "The Hump" to China during the war. Tunner was not impressed by what he saw in Germany.

"My first overall impression was that the situation was just as I had anticipated--a real cowboy operation. Few people knew what they would be doing the next day. Neither flight crews nor

ground crews knew how long they'd be there, or the schedules that they were working. Everything was temporary. I went out to Wiesbaden Air Base, looked around, then hopped a plane to Berlin. Confusion everywhere."

One of Tunner's priorities was to get the administration right. Control of operation "Vittles" on his arrival was vested in what was known as the HQ Berlin Airlift Task Force, USAFE, at Wiesbaden, and on 29 July, this was designated Airlift Task Force and made a separate entity, although it was still dependent on USAFE for many administrative functions. Tunner also realized that some form of unified control was necessary to coordinate the RAF and USAFE efforts, which at that time were proceeding independently. When the subject was first discussed there were some difference of opinion over how far the integration of command should go. While one school believed that cooperation of air traffic control was all that was necessary, another held that one office should be charged with the overall operational control. The question was not finally resolved until 15 October 1948, when the Combined Airlift Task Force was established.

Responsibility for providing the supplies that were to be flown into Berlin, establishing the necessary railheads, receiving supplies at the terminal points, and all handling and transportation on the ground was assigned to the Army, and an Army Liaison Officer was assigned to the Airlift Task Force HQ at Wiesbaden. Later, an Army Airlift Support Command was organized under one Army commander.

The 60th and 61st Troop Carrier Groups were initially charged with flying the maximum number of missions to Berlin. However, the requirement for 4,500 tons per day to supply the western sectors of Berlin soon made it apparent that the three-ton capacity of the C-47 was not adequate. By 1 July, the addition of two Douglas C-54s to the fleet marked the beginning of a heavy support force which, by 1 January 1949, was to grow to 201 USAF and 24 Navy aircraft.

The C-54, which had been adapted during the war from the DC-4 Civil Airliner to meet the requirements of the US armed forces, had first flown in 1942 and began to enter service in quantity by the end of the year. Later, it had been selected as the primary USAAF aircraft for transporting cargo and passengers from the United States to destinations in Europe and the Pacific. Powered by four Pratt-Whitney twin wasp radial engines, the C-54 Skymaster cruised at 180 knots and carried a payload of just under ten tons. The Navy version of the Skymaster, which was also to play its part in the airlift, was designated R5D.

General Kuter, the Commander of the Air Force's Military Air Transport Command, was asked by General Tunner to switch a substantial part of his C-54 force to Europe. As a result, on the day of Tunner's arrival, 26 July, the 48th Troop Carrier Squadron received orders to deploy its nine C-54s, together with 48 officers and 88 enlisted men, from its usual base at Bergstrom, Texas, to Rhein-Main. The nine aircraft were enroute

for Germany that day. Similar orders were issued to the 54th Troop Carrier Squadron at Anchorage, Alaska, the 19th Troop Carrier Squadron at Hickam Field, Honolulu, and the 20th Troop Carrier Squadron from Panama. By the middle of August 54 C-54s had been assembled at Rhein-Main, bringing the total number of US aircraft committed to the airlift at that time to 161.

In parallel with this increase in the airlift Task Force, plans were going ahead to increase the numbers of American combat aircraft available in Europe. Once the airlift had been established on a large scale, the Russians had to be dissuaded from interfering with it. This could only be achieved by dispatching modern combat aircraft to Europe with the utmost priority, and that meant the Boeing B-29, which had the capacity to hit the Russians hard. The B-29 could carry and release atomic weapons as well as carry formidable conventional bomb loads and had sufficient range to hit targets deep inside Western Russia. The USAF had authorization to use British air bases by conventionally armed American bombers in the event of a war threat in Europe. This agreement was between the British Air Ministry and the USAF and the Attlee Government readily agreed, and on 16 July 1948, a joint announcement was made by the Air Ministry and the USAF to the effect that two B-29 medium bomber groups, totalling sixty aircraft were flying from the USA to bases in England for a period of temporary duty.

c - Operation "Plainfare" The RAF Airlift.

When the Russians severed all road and rail links between Berlin and the west on 24 June, the Royal Air Force Transport Command had a single squadron of Dakotas in Germany. This was No 30 , commanded by Squadron Leader A.M. Johnstone. Having operated as a fighter squadron in the Far East during the second World War, No 30 had disbanded in December 1946 and re-formed as a transport unit with Dakota Civil aircraft at Oakington, Cambridgeshire, in November 1947. In May 1948, No 30 Squadron deployed to Schleswigland, on the Baltic Coast of Germany, in support of the 16th Independent Parachute Brigade, which had just been withdrawn from Palestine. Schleswigland had originally been opened in 1936 as a civil glider airfield, but had been taken over by the Luftwaffe in 1938. During the war it had been a night-fighter base, with Messerschmitt Me10s, Junkers Ju88s and Focke-Wulf 190s; later, it had been allocated to VIP use, with Junkers Ju52,s and 252s operating shuttle services to various points in the dwindling Reich territory, and in the last weeks of the conflict it had been used by Me 262 jet fighters. The Royal Air Force Regiment occupied the field in May 1945, and it was later used by No 121 Fighter Wing until the end of 1946. A few months later it was reopened as an Airborne Forces Practice Camp, which was still its role in June 1948. By a coincidence, No 30 Squadron's detachment to Schleswigland ended on 25 June, when Johnstone led his nine Dakotas back to Oakington. But they were not to remain

in Cambridgeshire for long; a great deal had been happening in their absence.

In May 1948, preliminary orders were issued by HQ No 46 Group to RAF Waterbeach, also in Cambridgeshire, to the effect that the wing in the Dakota Squadron was to stand by to supply the British Garrison in Berlin, should this move prove necessary. This commitment was increased to two squadrons in mid-June; supply plans were drawn up under the code name of Operation "Knicker."

On the evening of 24 June, further orders were received at Waterbeach from HQ No 46 Group that one Squadron, comprising eight Dakotas and their crews, were to deploy to Wunstorf and be ready to commence operations to Berlin within the hour. The party, under the command of Wing Commander G.H. Gatheral, left between 13:00 and 14:00 local time the next day and began operating that same evening. At midnight on 27/28 June, the second detachment of eight Dakotas earmarked for operation "Knicker;" they were also ordered to fly to Wunstorf as soon as possible. They left between 10:45 and 11:30 local time on 28 June.

The original requirement for operation "Knicker," as given in No 46 Group Operation Order No 7/48 dated 19 June 1948, was a daily lift of 130,000 lbs (58,967 kg) for the maintenance of the British force in Berlin. This lift required 24 Dakota sorties daily, and was expected to continue for at least a month. Within 48 hours, however, it became apparent that two squadrons

of Dakotas would not be enough to sustain what was fast becoming a major effort.

Accordingly, a conference was called by the Air Officer Commanding No 46 Group, Air Commodore J.W.F. Merer, of all station commanders and officers commanding the technical wings at Waterbeach, Oakington and Bassingbourn at 21:00 hours on 28 June. Merer left his subordinates in no doubt that a much larger effort had to be prepared, and that No 38 and 47 Groups would also be required to take part in the operation. The greatly enlarged effort was to receive the new code-name of "Carter Paterson"--a somewhat unfortunate choice, because Carter Paterson was a well know firm of removal specialists, and removals were not what this operation was all about. So, early in July, "Carter Paterson" became Operation "Plainfare." The 38 additional aircraft needed for the enlarged airlift flew into Oakington on the morning of 29 June, and positioned at Wunstorf the next day. At the same time, Group Captain Noel Hyde was sent to Germany by HQ Transport Command to coordinate matters. As his subsequent report shows, all was not plain sailing.

"I received instructions on the evening of 29 June from the AOC 46 Group that I was to take over command of the Transport Force operating in Germany as soon as possible. I reported to Group HQ the next morning to obtain my directive and then flew to Wunstorf, arriving there in the evening. After some confusion over the chain of command [Group Captain Wally Biggar had

arrived at Wunstorf from Schleswigland in the interim, having received from the British Air Force of occupation exactly the same authority as Hyde] on 3 July AHQ issued Operations Instruction No 14/48, which completely reversed the statements made by the C-in-C and Senior Air Staff Officer on the two previous days [to the effect that Hyde was going to be in command at Wunstorf]. Para 9 of this instruction states that British Air Force of Occupation Advanced Headquarters has been formed at RAF station Wunstorf, and that the officer commanding this headquarters is to exercise operational control over the transport forces allotted to him by AHQ BAFO. This was to do through the officer commanding RAF station Wunstorf, who, in turn, would exercise control through the officer commanding the RAF Transport Wing located at Wunstorf" (7).

It was an unfortunate start--although the organization was eventually sorted out, it caused a degree of acrimony between senior officers of Transport Command and BAFO. However, there was no disputing the fact that BAFO was a Tactical Air Force, and that it had no experience in mounting complex transport operations. This task logically fell to No 46 Group, which eventually assumed control of the British Airlift Operation. Wunstorf was not a large airfield. It was originally built in 1934 as part of Hilter's military airfield expansion scheme; by 1939 a Luftwaffe bomber group had been formed there, and it continued to operate throughout 1940. From 1941 until the end of the war the base was occupied mainly in training the crews of

twin-engined fighters, although single-engined fighters were dispersed there in the later stages.

In May 1945, Wunstorf was occupied by No 123 RAF Fighter-Bomber Wing, which continued to operate from there until the beginning of the airlift.

By the beginning of July, Wunstorf was already heavily congested with 48 Dakotas of No 30 Squadron (which Squadron Leader Johnstone had been ordered to fly back from Oakington within hours of his return to the UK) plus Nos 46, 53, 77, and 238 squadrons flying on the Berlin run, together with some aircraft of No 240 Operational Conversion Unit. When operation "Plainfare" began, the airfield possessed two concrete runways, perimeter tracks, and ladder-type hardstandings. Apart from these, and the aprons in front of the hangers, the surface was grass.

The original aircraft requirements from Wunstorf, as given by No 46 Group operation order 9/48, dated 30 June, was for 161 Dakota sorties per day lifting 400 tons, plus six sorties per day flown by scheduled RAF Dakota service to Berlin, lasting until 3 July. This was to be followed by 84 Dakota sorties lifting 210 tons daily, together with six sorties required by the personnel services in Berlin, to run from 4 July until further notice. At the same time, No 47 Group was to provide forty Avro York aircraft to fly 120 sorties during this period.

The first twelve Yorks arrived at Wunstorf on the evening of 12 July under Wing Commander G.F.A Skelton. Owing to the state of

the air field's surface, however, it was decided that only twenty Yorks could be accommodated, at least for the next few days. AHQ was requested to postpone the arrival of the remainder of the force until several ditches had been filled in and some of the parking areas covered with Pierced Steel Planking (PSP).

During the first two days of July the lack of adequate surfacing at Wunstorf caused a great many problems, with heavy rain and the constant movement of aircraft and vehicles churning up the soil into ankle-deep mud. However, work on the laying of PSP progressed rapidly, enabling the first York reinforcement aircraft to be flown in on 4 and 5 July.

d - The Civil Airlift

As the daily airlift tonnage requirements grew, it was soon realized that sufficient military aircraft could not be spared to provide the necessary lifting capacity. For this reason, civilian aircraft were chartered to bridge the gap. Before this stage was reached, however, a need arose for specialized aircraft capable of carrying petrol, and as Flight Refueling Ltd already had Lancastrian tankers in commission, three of them were chartered by the Air Ministry. Flight Refueling Ltd had a vast amount of experience in aerial tanker operations. The company had been founded in 1939 by the aviation pioneer Sir Alan Cobham, who had begun to practice flight refueling as a science, rather than an air circus stunt, in 1933. Apart from Cobham, the other principle figure in these

early experiments was Wing Commander H. Johnson, who had been Chief Pilot in Cobham's "Flying Circus."

In 1933, he had flown a Handley Page W10 from which Cobham flight-refueling an airspeed courier. On 20 January 1938, Cobham had demonstrated the commercial possibilities of in-flight refueling by transferring fuel from an Armstrong Whitworth AW23 bomber transport - the sole prototype of which had been loaned to Flight Refueling Ltd by the Air Ministry - to a C-Class Empire Flying Boat of Imperial Airways.

During the war, with Wing Commander Johnson as his Company's General Service Executive, Cobham had undertaken various flight refueling projects on behalf of the Air Ministry and also for the United States Department of the Army Air Corps. In May 1948, when the Berlin crisis was about to break, Flight Refueling Ltd had just completed a series of winter trials with its Lancastrians on behalf of the Ministry of Civil Aviation, the idea being to use these aircraft to refuel Liberator transports of British Overseas Airways Corporation (BOAC) on their long-distance runs. When the airlift began, the company was in the throes of a move to Tarrant Rushton, a deserted airfield in Dorset, and it was from there that Cobham offered his services to the Foreign Office.

The Avro G91 Lancastrian, a commercial conversion of the Lancaster bomber, was used by some companies, including Trans-Canada Airlines, BOAC, and British South American Airways, as an interim airliner in the immediate postwar years, and was

the first British Commercial type physically capable of crossing the South Atlantic. By 1947, however, it had been relegated to hack transport work and the carriage of bulk liquids, particularly milk and petroleum. The first flight by a Flight Refueling Lancastrian on airlift operations was made on 27 July 1948 by tanker G-AKOR (Captain D. Hanbury, DSO), which carried a load of petrol to Berlin from its home base of Tarrant Rushton, in Dorset. Operations were continuing from Buckeburg Airfield on a temporary basis, and no special arrangements for liquid fuel loading or unloading were made at this time. No one, then, could have foreseen the magnitude of the task that would have to be undertaken by the end of the year.

While this phase of civil aircraft operation was in progress, discussions were being held in London between the Foreign Office, Air Ministry, and Ministry of Civil Aviation on further use of civil aircraft. The Charter Superintendent of British European Airways, Colonel G. Wharton, OBE, was called in as technical advisor in view of his knowledge of the charter market. As a result of these talks, the Civil Airlift came into being with a small fleet of ten Dakotas, which were to be based at Fassberg, and two short Hythe Flying Boats, which were to operate from Finkenwerder on the Elbe. One Handley Page Halton and one Liberator were also chartered and based at Wunstorf alongside the RAFs Avro Yorks for a trial period, because doubts were expressed about their serviceability and loading facilities. The Halton's large ventral freight pannier, capable

of holding 8000 lbs (3,629 kg), made the Halifax adaptation a relatively useful transport aircraft, but it required a special loading technique and the aircraft themselves had been heavily worked by their respective operators.

Owing to the number of separate companies involved, it was also decided that BEA should provide liaison officers in Germany through whom the RAF could channel instructions to the operating companies, to deal with administrative problems and keep records on which payments to the companies could be based.

The Dakotas were provided by six charter companies: Air Contractors (G-AIWC, G-AIWD, and G-AIWE), Air Transport (CI) (G-AIVZ), Kearsley Airways (G-AKAR and G-AKDT), Scottish Airlines (G-AGWS and G-AGZF), Trent Valley Aviation (G-AJPF), and Westminster Airways (G-AJAY). Later, Westminster added a second Dakota, G-AJAZ. Also at a later date, more civilian Dakotas were provided by British Nederland Air Services (G-AJX), British Overseas Airways Corporation (G-AGIZ, G-AGNG, and G-AGNK), Ciro's Aviation (G-AIJD and G-AKJN), Hornton Airways (G-AKLL), and Sivewright Airways (G-AKJAY). The Short Hythes were supplied by Aquila Airways, a new company formed at a time when BOAC and other world airlines had decided that there was no future in flying boats, while the Halton came from Bond Air Services and the Liberator (G-AHDY) was provided by Scottish Airlines.

For most of these companies, formed in the early postwar years by enthusiastic young men who had survived the war and, who had

scraped together every penny to purchase surplus transport aircraft, the Berlin Airlift was to be their heyday and also their swansong. Most of those companies named above did not survive beyond the early 1950s.

Overall direction was entrusted to BEA's general manager in Germany, E.P. Whitfield, as an additional commitment to his duties as the Commercial Manager of the corporation in his territory.

Warning of the arrival of the civilian aircraft to Germany, scheduled for 4 August 1948, was not received until the 1st, but in spite of this short notice the necessary arrangements were made for the first sorties to take place on the following day. The first sortie was flown at night by Halton G-AIOI (Captain Treen) of Bond Air Services, which landed at Gatow at 03:10 local time. This aircraft carried out five return flights between Wunstorf and Berlin in the first 24 hours of operations, which produced a total of 33 sorties from the civil side.

It was inevitable, in view of the way in which the civil air reinforcements were rushed into action on the airlift, that these early operators should run into many difficulties. There was no time to send out advance parties to explore what facilities were available in Germany, to obtain a full briefing on operational procedures, wireless frequencies, loading arrangements and so on, or set up a proper maintenance organization. It speaks well for the initiative and resource of the operators that, although their aircraft only arrived at

their base in Germany on the evening of the 4th, they were able to commence operations without any delay or fuss the next morning. Difficulties had to be overcome, and strenuous efforts were made, not only by the operators themselves, but also by the RAF, who showed themselves always ready to give prompt and immediate assistance. As an example, on the eve of the start of the civil operation, despatch riders had to be sent to RAF stations in Germany to obtain radio crystals for the civil aircraft sets, so that they could be tuned to the special radio frequencies used on "Plainfare." Then, at the initial conference at Fassberge, the Army asked that the civil Dakotas carry the same standard payload of 7,480 lbs (3,393 kg) as the similar RAF type. As this weight was in excess of the 6,000 lb (2,722 kg) allowed by the civil aircraft's Certificate of Airworthiness, arrangements had to be speedily improved for special loads to be prepared for civilians. Applications were immediately made to the Air Registration Board for the standard load to be carried, but clearance was not received until 15 August. Further difficulty was that the payloads of individual aircraft varied, as some companies had not fully stripped the interiors of passenger furnishings and other unnecessary dead weight. This problem was also solved by 16 August, when all civilian Dakotas began operating with the 7,480 lb (3,393 kg) payload. Accommodation, hangar, transport, and workshop facilities also presented difficult problems which had to be ironed out with the full cooperation of the RAF.

On 8 August 1948, Flight Refueling Ltd moved from Buckeburg to Wunstorf, where the Lancastrians joined the Solitary Halton. The latter type had proved itself satisfactory; although it was awkward to load, more aircraft of this type were ordered. On the other hand, the Liberator was withdrawn, as it had not produced a high enough standard of serviceability. Finally, on 28 August, the civil Dakotas joined their RAF counterparts at Lubeck.

The civil Hythes of Aquila Airways were manned by recently demobilized ex-coastal command crews who knew many of the service personnel at each base, and this fostered a spirit of good comradeship and keen rivalry between them.

Excellent aircrew morale and good serviceability produced a steady three sorties a day from the two flying boats in the hours available for operations. Every effort was made by this company to increase their payload, which improved from 9,982 lbs (4,528 kg) at the start to 10,9000 lbs (4,944 kg) by the end of October.

With the approach of autumn, it became probable that the Russians intended to maintain the blockade throughout the winter months, and plans were made for a considerable expansion of the civil fleet.

The first Tudor to join the airlift was a MKII, G-AGRY, which was operated by Air Vice-Marshall D.C.T Bennett's newly-formed Airlift Company. This aircraft arrived at Gatow on 3 September 1948, carrying a load of 20,000 lbs (9,072 kg). Later in the

month, BSAA began operations from Wunstorf with two Tudor MK I freighters. Additional reinforcements also arrived at Wunstorf in September in the shape of two Halton freighters of Skyflight, two Wayfarers of Silver City and two Vikings of Transworld Charter. The Wayfarer was the passenger version of the Bristol Freighter, and was used on the lift as a stopgap until the latter type could be made available. The Bristol Freighter was required to transport awkward loads such as cars, snowplows, and rolls of newsprint; its large loading doors at the front of the aircraft, and substantial internal capacity, made it very useful for this type of cargo.

The winter was approaching, the months of October and November saw a considerable influx of British and American military aircraft, and brought fresh difficulties for the civil airlift. To absorb these reinforcements, a further redeployment of the civil fleet became necessary; although unavoidable, this happened at an awkward time, just as plans were being made to replace the lighter transport types with heavier aircraft. Every effort was made to keep the rate of flying as high as possible, but some inevitable loss of tonnage was experienced. To conform to the new pattern, the civil Dakotas were again moved on 6 October, from Lubeck to Fuhlsbuttel, Hamburg civil airport, which became a "Plainfare" base. As this move was undertaken at short notice, a great strain was placed on the airfield's resources, for there was not enough warning to prepare adequate accommodations or provide the necessary technical facilities.

The civil Dakotas at Fuhlsbuttel continued to increase in numbers, but soon after the arrival of three BOAC Dakotas on 20 October, there sorties were restricted owing to congestion at Gatow, and they were finally withdrawn between 10 and 23 November. In the previous months, the contract for Skylight's Halton was cancelled as the results achieved by this company had proven unsatisfactory. World Air Freight joined the airlift on 6 October with one Halton, and this became the first civilian aircraft to be written off when, two days later, it broke its back following a swing on take off at Gatow.

Further reinforcements were provided by Bond Air Services, who by this time had increased their commitment to four aircraft; Eagle Aviation, with two Halifax transport conversions; and a Bristol Freighter from Airwork. They were joined by three Halton freighters of Lancashire Aircraft Corporation on 16 October, and by a Halton tanker of this company on 30 October. In the meantime, Airflight had received a second Tudor MK V, and both aircraft had been converted into tankers.

On November 1948, the civil airlift completed its first 100 days of operations, during which period it had carried 18,585 short tons in the course of 3,944 sorties. The second phase of operations, which lasted from 12 November 1948 to 19 February 1949, began with another major deployment of the civil fleet. The Haltons were moved out of Wunstorf to make room for the three Avro Yorks of Skyways, which joined the lift on 16 November, and also for the anticipated arrival of BSAA's Tudor

tankers. Bond Air Services and Eagle Aviation moved their Haltons to Schleswigland on the 24th. With the withdrawal of the Vikings and Wayfarers during the same period, Wunstorf became exclusively an Avro base for Tudors, Lancastrians, and Yorks.

The Flight Refueling had increased their unit to seven Lancastrians; Skyways had brought in two Lancaster tankers in addition to their three Yorks, and British American Air Services--a new company on the airlift--had positioned two Halton tankers at Schleswigland, Westminster and on Halton on 20 January 1949, and finally, Lancashire Aircraft Corporation increased their commitment to ten tankers during the month. The composition of the tanker force at the end of January was therefore, five Tudors, nine Lancastrians, and thirteen Haltons, making 27 aircraft in all. In addition, there were seventeen freighters, giving a total strength of 44 civilian aircraft.

During the whole of the fuel supply operation, the Shell Aviation Company was in charge of the facilities at Gatow and handled a total of 7,312 tankers, discharging 40,020,090 gallons (181,931,329 liters). Defueling operations at Tegel were controlled by the Standard Oil Company. The principal problem was that there was little standardization in the fueling equipment used by the aircraft of individual companies, despite the fact that explicit instructions about what was required had been issued in August 1948. This could lead to perilous situations, especially in the case of the Halton tankers, where a lack of adequate fuel tank venting created a concentration of

dangerous fumes in the cockpit. As it also caused a major fire risk in the event of a Halton having to make a belly landing, tanker operations by this type of aircraft were suspended on 29 December 1948 and the matter referred to the ARB in London for a ruling. The upshot was that the ARB refused to issue a C of A to any aircraft whose fuel tank extended below the fuselage, as far as the carriage of petrol was concerned, and from 2 February 1949 the Haltons were used exclusively for the carriage of diesel or kerosene.

On 15 December the flying boat base at Finkenwerde was closed and the short Hythes withdrawn. These three aircraft, named Hadfield, Haslemere, and Halstead, had completed 265 sorties and carried over 1,400 tons before ice on the Havel Lee brought their operations to an end. Also, their speed had made it increasingly difficult to fit them into the traffic pattern. On the following day, an Avro York Skyways made the 5,000th landing in Berlin.

In the middle of January, two Liberator tankers were chartered from Scottish Airlines to fill the gap caused by the delay in the arrival of other tanker aircraft. This had caused the stocks of liquid fuel in Berlin to fall to a dangerously low level, and in order to build them up again it was decided to increase the tanker fleet beyond the total of 31 aircraft which had been ordered towards the end of 1948.

The Liberators arrived at Schleswigland on 19 February. On 20 February the civil airlift flew its 7,800th sortie in 200 days

of operations, during which time it had carried 44,387 tons. The daily average during the first 100 days was 186 tons, raising to 258 tons in the second period. The daily number of sorties flown had increased from 54 to 70, and the utilization of serviceable aircraft had risen to an average of three sorties per day. The biggest improvement was in airflight's sortie rates; their two Tudors flew 144 sorties in March compared with 92 in February, mainly as a result of the adoption of planned maintenance by this company. Equally encouraging were the results achieved by the tanker fleet as a whole, and the new target of 350 tons per day was achieved. For the first time over 10,000 tons of liquid fuel was delivered to Berlin in one month.

On 11 May the Soviet blockade of Berlin was lifted. At this point, the civil contribution to the success of the airlift was 86,252 tons, delivered in just over ten months. The final phase of the civil lift took place between 1 June and 15 August 1949. On 15 August, the last civil sortie on operation "Plainfare" was flown by Halton G-AIAP (Captain Villa) of Eagle Aviation. This aircraft, carrying 14,400 lbs (6,532 kg) of flour, landed at Tegel at 01:45 hours local time on 16 August and so brought to an end the greatest transport operation in the history of civil aviation.

7 - What Did It Do?

a. United States was able to lift during the period June 1948 to June 1949 - 1514067 tons in 162273 flights. The British contribution during the airlift was 361194 tons in 76298 flights. See appendix 1 for monthly lift.

b. The civilian contribution in the airlift was 146,980.2 tons in 21921 flights. See appendix 2 for the charter companies who participated in the airlift (8).

8 - How Long The Blockade?

The blockade went into effect, June 24, 1948 at 0600. The first hint that the blockade was nearing its end came in an interview that the European Manager of the International News Service had with Russian Premier Joseph Stalin. In reply to a question as to whether the Soviet Union would lift the blockade if the Allies agreed to postpone the establishment of a separate West German State. "The Soviet Union sees no obstacles to lifting transport restrictions, on the understanding, however, that transport and trade restrictions introduced by the three powers should be lifted simultaneously." There was no reference to the currency situation or any of the other conditions that Russia had been demanding for the previous year.

The actual negotiations, which started on March 15, were between the United States Ambassador to the United Nations, Philip Jessup, and the Soviet representative on the Security Council, Jacob Malik. Russia wanted to discuss the whole German problem.

Dr Jessup intimated that no such meeting would be possible while the blockade was in effect.

After consulting with Moscow, Malik replied that, if a definite date was set for a meeting of the Council of Ministers, restriction of trade and transportation in Berlin could be lifted in advance of the meeting. On May 5, an official statement was issued in Washington, London, Moscow, and Paris; the first paragraph of which said, "All restrictions imposed since March 1, 1948, by the Government of the Union of Soviet Socialist Republics on communications, transportation, and trade between Berlin and the Western zones of Germany and between the Eastern zone and the Western zones will be removed on May 12, 1949 (10). The blockade was from June 23, 1948 to May 12, 1949.

9 - What Did It Lead To?

During the airlift year, 1948-49, important changes took place within the US Administration. Truman was inaugurated for his second term as President on January 20, 1949. At the head of the State Department, Dean Acheson succeeded General Marshall, who was forced into retirement by illness and advanced age. James Webb, the Director of the Bureau of the Budget, replaced Robert Lovett as Under Secretary of State.

These personnel changes did not usher in any discernible change in the direction or emphasis of the administration's policy towards Berlin. That policy was based on two main pillars: the airlift and the counter blockade. By maintaining its position

in Berlin through the lift, the United States greatly enhanced its own standing and prestige in Germany and helped to forge, for the first time, a genuine bond of solidarity between Germany and the Western World. A technical achievement of the highest possible order, the airlift surmounted all the barriers thrown up by an exceptionally severe German winter. As the airlift demonstrated its tremendous potential as a substitute for force, there was a corresponding decline in American's interest in compromise and willingness to make concessions. The conviction that Russia could be forced to yield without any significant concessions on America's part steadily gained ground.

This conviction was greatly strengthened by the serious consequences which the Allied counterblockade was clearly seen to be having on the economic welfare of the Soviet zone. After its introduction in March 1948, the counterblockade was expanded in scope and tightened in application. This counterblockade cut off essential steel, chemicals, manufactured goods, and other supplies from west Germany, and also reduced the trade between East Germany and Western Europe. Economically, the counterblockade was more effective than the blockade, and it could not be broken by airlift.

Moreover, the blockade and the Allied rescue operation, in their different ways, radically altered the psychological and political climate in Western Germany in a direction which was favorable to the speedy implementation of the London Program and to the formation of defensive alliance against Russia.

"Russia's toughness and truculence in the Berlin matter" observed Truman, "had led many Europeans to realize the need for closer military assistance ties among the Western nations, and this led to discussions which eventually resulted in establishment of NATO"

10 - Conclusion

The Anglo-American airlift to supply Berlin when it was deprived of surface transportation in the summer of 1948 was a dramatic undertaking. The closing of the roads, railroads, and canals into the city by the Russians was a siege which, if successful, would have compelled the surrender of the German Capital to the Communists to prevent the starvation of the populace. The airlift broke the siege, something that has never before been accomplished by airpower. When the airlift started no one believed that a city of over 2,000,000 people could be sustained exclusively by airborne supplies. It broke new ground in the logistics of airpower. It taught technical lessons that guided future air policy. But its great importance was in none of these.

The Berlin airlift was the first firm step by the Allies in the Cold War that had started when the shooting war stopped, and the first clear indication to the world that the Anglo-Americans would make a staunch stand against the spread communism in Europe. The Russians had created their ring of communist-controlled satellites in Eastern Europe with little

but token opposition by the Western powers. Their next objective was a drive to extend communism throughout Western Europe. They might well have succeeded except for the Berlin airlift. Had their blockade of that city been effective in driving the Western Allies from the old German capital, it is not unreasonable to assume that they might have gained political ascendancy in all of Europe. General Lucius Clay, who replaced General Eisenhower as the postwar Military Governor of occupied Germany, modestly described the airlift's importance by writing: "The success of the European Recovery Program and the planned formation of a West German Government led to the Soviet blockade of Berlin, an attempt to drive out the Western Powers, thus recreating in Europe the fear which favored communist expansion. The airlift prevented the blockade from accomplishing its purpose. There were risks involved in our determination not to be driven out of the former German Capital. We understood and accepted these risks. To do was essential if we were to maintain the cause of freedom. The firm stand of the Western Powers in undertaking the airlift not only prevented terror from again engulfing Europe, but also convinced its free people of our intent to hold our position until peace is assured (12)."

APPENDIX 1

a - US and British Monthly Tonnages

Month	U.S.		BRITISH		TOTAL	
	Flights	Tonnages	Flights	Tonnages	Flights	Tonnages
26 June to 31 July	8,117	41,188	5,919	29,053	14,036	70,241
August	9,796	73,632	8,252	45,002	18,048	118,634
September	12,905	101,871	6,682	36,556	19,587	138,427
October	12,139	115,793	5,943	31,245	18,082	147,038
November	9,046	87,963	4,305	24,629	13,351	112,592
December	11,655	114,572	4,834	26,884	15,489	141,456
January 1949	14,089	139,223	5,316	32,739	19,485	171,962
February	12,051	120,404	5,043	31,846	17,094	152,250
March	15,530	154,480	6,627	41,686	22,157	192,166
April	19,129	189,972	6,896	45,405	26,025	235,377
May	19,365	192,247	8,352	58,547	27,717	250,794
June	18,451	182,722	8,049	57,602	26,545	240,324
Total	162273	1514067	76298	361141		

APPENDIX 2

a - Civil Airlift Achievements

Charter Companies and Aircraft Types	FREIGHTER			TANKER			TOTAL		
	Sorties	Hours	Tonnage	Sorties	Hours	Tonnage	Sorties	Hours	Tonnages
Air Contractors: Dakota	386	1,066.49	1,376.6				386	1,066.49	1,376.6
Air Flight Tudor - Lincoln	86	232.13	756.2	881	2,437.16	7,660.4	967	2,669.29	8,416.6
Air Work Bristol Freighter	74	218.44	370.6				74	218.44	370.6
Air Transport (CI) Dakota	205	562.10	742.6				205	562.10	742.6
Aquila Airways Hythe	265	700.38	1,409.2				265	700.38	1,406.2
British American Air Services-Halton	97	233.16	524.8	564	1,752.42	3,938.1	661	1,985.58	4,462.9

APPENDIX 2

a - Civil Airlift Achievements (Continuation)

Charter Companies and Aircraft Types	FREIGHTER			TANKER			TOTAL		
	Sorties	Hours	Tonnage	Sorties	Hours	Tonnage	Sorties	Hours	Tonnages
British Nederland Air Services-Dakota	76	230.03	276.4				76	230.03	276.4
British South America Airways Tudor	231	641.35	2,312.4	2,331	6,331.48	19,812.8	2,562	6,973.23	22,125.2
British Over- seas Airways Corporation Dakota	81	224.10	294.0				81	224.10	294.0
Bond Air Services-Halton	2,577	6,425.48	17,131.4				2,577	6,425.48	17,131.4
Ciros Aviation Dakota	328	930.27	1,177.4				328	930.27	1,177.4
Eagle Aviation Halton	1,054	2,471.02	7,303.8				1,054	2,471.02	7,303.8

APPENDIX 2

a - Civil Airlift Achievements (Continuation)

Charter Companies and Aircraft Types	FREIGHTER			TANKER			TOTAL		
	Sorties	Hours	Tonnage	Sorties	Hours	Tonnage	Sorties	Hours	Tonnages
Flight Refueling Lancastrian Services-Dakota:				4,438	11,611.21	4,438	76	11,611.21	276.4
Horton Airways Dakota	108	301.25	397.5				108	301.25	397.5
Keasleys Airways - Dakota	246	679.57	888.6				246	679.57	888.6
Lancashire Aircraft Corporation - Halton	183	522.13	1,215.3	2,577	8,193.40	15,197.9	2,760	8,715.53	16,413.2
Scottish Airlines Dakota Liberator	116	290.56	458.2	381	1,223.13	2,716.5	497	1,514.09	3,174.7
Silver City Airways, Bristol Freighter, Bristol Wayfarer	213	619.51	896.4				213	619.51	896.4

APPENDIX 2

a - Civil Airlift Achievements (Continuation)

Charter Companies and Aircraft Types	FREIGHTER			TANKER			TOTAL		
	Sorties	Hours	Tonnage	Sorties	Hours	Tonnage	Sorties	Hours	Tonnages
Sivewright Airways-Dakota	32	87.06	116.1				32	87.08	116.1
Skyflight-Halton	40	105.43	276.1						
Skyways - York Lancastrian	1,081	2,950.28	10,175.1	1,668	4,397.48	13,313.2	2,749	7,348.16	23,488.3
Transworld Charter-Viking	118	322.46	415.4				118	322.46	415.4
Tent Valley Aviation-Dakota	186	504.25	665.5				186	504.25	665.5
World Air Freight-Halton	526	1,212.36	3,703.2				526	1,212.36	3,703.2
Westminster Airways-Dakota/Halton	404	1,105.40	1,752.0	368	1,208.48	2,591.9	772	2,314.28	4,343.9
Grand Total (All Aircraft)	8,713	22,640.00	54,634.8	13,208	37,156.36	92,345.4	21,921	59,796.37	146,980.2

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