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R.A.F. NARRATIVE

(First Draft)

THE LIBERATION OF NORTH WEST EUROPE

VOLUME II

THE ADMINISTRATIVE PREPARATIONS

Air Historical Branch(I),

Air Ministry.

SECRET

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FOREWORD

Those who were most closely concerned as architects and builders of victory, ascribed the Allied success in "Overlord" to team-work. By this they meant the combined action of the United Nations and the joint action of all the Services. In this way was applied the major Allied strategy of concentrating upon the defeat of Germany first, and then of re-deploying force to crush Japan. Of necessity, this method of waging war has its disadvantages, and these have often been contrasted with the advantages enjoyed by a system of dictatorship. It is not easy for great men to sink their individualities; for different nations to appreciate each other's points of view; or for one Service to appreciate the attitude of another. And yet, if warfare is to be successfully conducted by Nations as Allies and by Services in co-operation, this is what must happen. It has often been argued that a dictatorship makes for a more unified and consistent direction of policy, that it is more flexible, more adaptable, and more rapid in coming to decisions and in taking action than a system of Committees such as was set up by the United Nations to conduct this last war. However far those arguments might be true, their validity is completely nullified if the State is directed by anyone less than a superman, if the quick decisions are often wrong decisions, and if the subsequent action is mis-applied. The history of the recent war abounds in so many examples of such mistakes by the dictators, from which the democracies gained a breathing space, that we recollect with some gratitude that it is not given to one man to know all things.

In examining the main factors contributing to the Allied victory in North West Europe, therefore, it is impossible not to be struck by the success of a war waged to a large extent by Committees. A study of the Administrative Plans and Preparations for the campaign confirms the views expressed by

our great war leaders. The close co-operation between the two Anglo-Saxon powers and between land, sea and air forces is a striking feature of all of them - probably the most striking feature of the Allied planning in this war. At every stage, plans by each Nation were concerted with the other, and by each Service with its fellows. Co-ordination and synchronisation went on at all levels.

If the Inter-Allied and Inter-Service aspects of these plans is their most striking feature, hardly less important to the success of the campaign was the work that had gone into solving the problem of maintenance long before the assault was launched. The Allies were confronted by the problem of putting large forces across a formidable water-barrier, and then of maintaining and increasing them at a rate outstripping anything that could be attained by an enemy already in possession of the territory. All authorities agreed that the critical period would occur, not during the first hours after the landing had been effected, but during the phase when continuous efforts were being made by both sides to build up striking forces in the area. Success or failure would depend upon the relation between two factors, one of which was the movement of enemy forces into the threatened area, and the other the rate at which Allied forces could build up across beaches.

This was not solely an Army problem. The Navy could wield great influence upon our rate of build-up, while the Air Forces could greatly affect that of the enemy. All Services put forward prodigious efforts for months - even years - beforehand, to ensure that no want of forethought should cause any failure. Some of the maintenance problems had come up two or three years previously and had been studied closely ever since. Experiments and trials had been made before policy had been settled: so far as was humanly possible nothing was left to chance. The time for extemporising with existing resources had

passed. Because the lesson of "too little and too late" had been learnt, this campaign was not fought with inadequate resources, obsolete equipment, irregular supplies and insufficient backing. Prudent strategy, combined with material superiority enabled us to open this campaign with justifiable hopes of success. In the event, the Allies won what was largely a logistical race.

General Eisenhower himself has recognised "The superb organisation which lay behind the miraculous achievements of our supply and maintenance services". He considered that the main reason for the German failure to repel the invasion, both before it was well established and "throughout the struggle .....was his logistical inability to maintain his armies in the field", due mainly, it should be said, to the operations of the Allied Air Forces. The Supreme Commander contrasted the German failure with the Allied success. "From D + 2 onwards there was never any real danger of our maintenance failing and the armies never went short of food for men or ammunition for guns".

Air Chief Marshal Leigh Mallory also records the view in his Despatch that the success of the Air Administrative Plan was remarkable in every respect. Indeed, the size and number of problems involved in keeping air operations on a sustained level while Air Forces and their bases were being moved across the Channel, and the completeness with which those problems had been solved by the Planners, is one of the outstanding wonders of the whole campaign.

Another prominent feature of the elaborate preparations for "Overlord" was the long term nature of many of them. Examples of this kind of work are the programme for constructing airfields near the Channel and the construction of transportation and embarkation facilities in the same area. Building schemes to provide accommodation, the construction of pipelines and of

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concrete structures for artificial harbours, the production of special equipment, vehicles, and modifications for aircraft, all needed prolonged discussions to settle policy and to co-ordinate all requirements before the actual work could be commenced.

It was because of this fact that so many of the preparations were started in 1942, and despite the fact that the first great invasion plan expounded to the British authorities by General Marshall was postponed, a great many of the physical preparations made for carrying the Marshall Plan into effect were allowed to mature. Many of these works were, in fact, essential to the mounting of any large scale assault based on England, and on that account the contracts were never cancelled.

Because it does not make a colourful and romantic story, the administrative and material side of a campaign tends to be neglected when its history is written. But in modern wars material is assuming a greater importance. The power that devotes time and energy to producing and accumulating reserves and equipment makes war with a great initial advantage. The Commander who makes elaborate and well thought out preparations before joining battle usually finds that they pay a high dividend. But the policy upon which those preparations are made by Nations and by Commanders must be right. The correct weapons, the most effective and up-to-date equipment must be chosen, the best possible allocation of resources must be made. This places a heavy responsibility upon military Commanders and on scientists and technicians and on the administrators who form the link between them all. The administrative preparations for any campaign range in importance from the policy direction given at the highest level to the organisation of the smallest administrative units for the front line landing strips. An account of what was done to make administrative preparations and to prepare administrative plans for "Overlord" must therefore deal with the work of inter-governmental agencies which

laid down the broad policy and created the administrative machinery that was necessary to implement that policy. It must also deal with the work of Planners in the Service Departments, the Headquarters and the lower formations concerned. The purpose of this narrative is to describe the part played by the R.A.F. itself and in conjunction with others, in the administrative preparations and plans that were made for "Overlord".

Its part was not a dominant one in the sum total of all the preparations that were made; nevertheless it was an important one. Not only was the R.A.F. able to make most of its own arrangements, but through its representation on the Inter-Service Planning Organisations it was also able to contribute much to the common pool of ideas. It was, in fact, able to play a worthy part as a member of the team. The R.A.F. not only brought into existence a large and highly mobile tactical Air Force as its main contribution to the Allied Expeditionary Air Force, but also made all the preliminary arrangements to enable a powerful United States Air Force to operate from the United Kingdom.

The Air Member for Supply and Organisation, apart from his role of directing the administrative policy of the R.A.F., was a founder member of the Principal Administrative Officers Committee, an Inter-Service Committee at Chiefs of Staff level first set up to supervise the administrative arrangements for a return to the Continent under the Marshal Plan. He was represented - notably by his Director of War Organisation - on a number of high level Committees directing policy on particular aspects of those preparations. In describing the earlier phases of joint and combined planning some attention must be paid to the work of these Committees because they were instrumental in defining policy on major problems that arose in the course of preparing to invade North

West Europe with combined Allied forces. Mention will also be made of the Special Planning Staff set up to serve the Air Ministry and the Air Force Commander in focussing R.A.F. planning on this subject and in collaborating with other agencies engaged in planning the invasion. After Casablanca, this Staff continued its work at the Headquarters of C.O.S.S.A.C., who was entrusted with the task of preparing plans and of co-ordinating preparations for the defeat of Germany in North West Europe. With the acceptance of C.O.S.S.A.C.'s Outline Plan for "Overlord" began a new phase, when the definite limitations of time and locality made it possible to begin more concrete and detailed arrangements.

Throughout the next six months the R.A.F. continued to lead the way in making preparations necessary for the air war. Contact with the German Air Force had never been lost by the British, and after three years of continuous fighting the R.A.F. had built up valuable experience and valuable organisations. While the Americans were arriving in the U.K. the R.A.F. made all the arrangements necessary for their reception and accommodation, and assisted them in the process of becoming familiar with air warfare in this theatre.

With the expansion of the United States Air Force in the U.K., however, U.S. officers began to take a larger share in joint and combined planning. In R.A.F. circles it had been imagined that the U.S.A.A.F. would adopt an organisation in this theatre similar to the new Expeditionary Air Force that had been suggested for the R.A.F., in which case it might also have been possible to prepare a combined Administrative Plan. It soon became clear, however, that the radical differences between the way in which the two Air Forces were organised would make such an arrangement impossible, even if the United States Air Force adopted the new British E.A.F. Plan. The U.S. forces, however,

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retained their own system, whereby the administration of the whole Army (including the A.A.F.) was the responsibility of the Services of Supply. Thus it happened that, although there was one Overall Air Plan to cover the operations of the British and American Air Forces in "Overlord", each of the national components of A.E.A.F. was separate administratively.

The story of the invasion preparations, extending over nearly two years, falls naturally into two main divisions. The first part deals with the earliest discussions that began in Spring 1942 culminating in the British acceptance of the Marshall Plan in April and ending a year later. The second part begins with the appointment of General F.E.Morgan as Chief of Staff to the Supreme Allied Commander in April 1943, just over a year before "Overlord" was launched.

The first part will show how it was decided that the U.K. should be the great base for an attack on Fortress Europe. Machinery was created for securing efficient co-operation in directing United States and British war effort, and lasting decisions of major policy were made. This was the period when the broad allocation of areas was made to U.S. forces arriving in Southern England, when the R.A.F. undertook the construction of A.L.Gs in Southern England, at the same time as other Departments commenced constructional work which would make it possible to mount the invasion and to maintain the Allied forces. This was also the period when the great "Bolero" Movement Plan was worked out, whereby over a million U.S. troops were to arrive in England. The "Bolero" Plan, when once settled, was so complete that it only needed revision to serve again when the Americans renewed their build-up in this country. During this period the R.A.F. was engaged in a vast expansion scheme. At the same time the A.L.Gs were built, R.A.F. Units were put on a mobile basis, special equipment and vehicles were designed, and new organisations were developed.

In the second phase, the new R.A.F. organisations for the Expeditionary Air Force became more definite, but administrative planning went on very slowly until the results of the Staff Meetings at "Quadrant" were made known. Once there was more definite information available about target forces, planning could proceed at a greater rate. The administrative preparations made in 1942 and early 1943 did not depend in more than a general way upon an operational plan, but detailed administrative arrangements could only proceed hand-in-hand with operational plans.

The second part of this Narrative describes how administrative planning was conducted by the Administrative Branch of C.O.S.S.A.C. and its system of co-ordinating Committees representing C.O.S.S.A.C., and the Departments, and linked with the Principal Administrative Officers. After considerable experience of Joint Planning there was a movement among Administrative Planners to secure closer co-operation with the Operational Planners, and the result was the integration of operational and administrative planning under the Joint Planning Staff. This was a period of great activity, due to the influx of 1½ million U.S. personnel, added to the British build-up, but the necessary administrative planning presented fewer difficulties than might have been expected because most of them had already been solved in 1942. It was appreciated, however, that our forces would not succeed unless the maintenance problem of our forces in France was solved, and this had not been done in 1942. The combined attack on Dieppe had shown that it would be impossible to capture a major port intact by direct assault, and in consequence it was essential to find some means of surmounting the difficulty of supplying forces after they had effected a lodgment. Much thought was therefore devoted to all aspects of the maintenance problem in 1943.

So far as the Air Force on the Continent was concerned, everything hinged upon the number of airfields that could be brought into operation, and arrangements were consequently made for the rapid construction of landing grounds by the Royal Engineers and for the later improvement of some of them by the R.A.F. Airfield Construction Wings.

Finally, the administrative arrangements to enable the R.A.F. Component of A.E.A.F. to function are explained. The R.A.F. Administrative Plan and the Joint Maintenance Project shared with the Army, together with Administrative Directives and Administrative Instructions issued from time to time later, described how the Air Force was going to move to France and how it was to be supplied and maintained thereafter. Sections are devoted to the working of the Base Group, Beach Units, Forward Maintenance Units and other novel organisations as well as to the arrangements made for co-operation with the Army.



## II. EVOLUTION OF BRITISH STRATEGY FROM 1940 TO 1942.

### The Defence of Great Britain after Dunkirk.

After the evacuation from France the Defence Committee and the Service Chiefs were immersed in the problem of rebuilding our military forces so as to meet the threat of invasion. The air onslaught on S.E. England which soon followed was seen as the prelude to invasion. Many weeks of hard fighting had passed before it was possible to conclude that our fighter squadrons had won the Battle of Britain and had thus made an immediate invasion too hazardous an operation for the enemy to attempt.

Before the battle by day had reached a decisive stage the Luftwaffe had begun a programme of night bombing. London and many of our chief provincial towns in turn were subjected to mass air raids. No effort was spared in the attempt to find an answer to this new menace, but although our air defence organisation was vastly expanded and numerous promising devices and expedients were adopted no immediately effective counter to the night bomber could be discovered.

But in spite of this the customary results of such air attacks were not seen in Britain. Military and civilian morale did not break down under the strain. The whole population from the Prime Minister downwards bore their misfortunes with a grim fortitude and devoted themselves to unremitting toil in their determination to make this country an impregnable fortress.

### Staff Talks with the United States (August 1940)

This was, perhaps, hardly the time to begin discussions about a return to the Continent. No realist could suggest pitting our few divisions against the forces at the disposal of the Axis. But while the evacuation from the Continent

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C.O.S. (40)496  
(J.P.) Staff  
Conversations  
with United  
States

was taking place Mr. Roosevelt came to a decision of far reaching importance. In a telegram on the 17th June 1940 the Marquis of Lothian reported that the President had agreed to secret Staff talks between the United States and British Navies, and if considered necessary, between Air Forces also. These talks were held in London, and in welcoming the Americans on the 14th August the British Chiefs of Staff outlined the official British conception of future strategy as follows:-

S.A. 2 (Annexe 2,  
Paper No. C.O.S.  
(40)604 (J.P.)  
(Revise))  
14th August 1940,  
para. 32, et seq.

"We consider that the defeat of Germany can be achieved by a combination of economic pressure, air attack on economic objectives in Germany and Italy - with consequent weakening of their morale - and the creation of widespread unrest and revolt in the conquered territories.

"Our ability to defeat Germany therefore depends primarily on the application of economic pressure to a degree which will fatally weaken her, and the creation of an air weapon with which we can effectively attack her. Although our strategy for some time to come will be exercised mainly through the medium of naval and air power, powerful land forces will still be required for the defence of the United Kingdom and our Imperial possessions and interests.

"In addition, our amphibious power gives us a weapon which we intend to develop and exploit to the full against the widely strung flanks of our enemies.....

"Finally, although we do not aim at producing an army on the continental scale or at renewing a major campaign on the Western Front against the Germany army in its present state, we believe that, as the effects of our blockade, air attacks, and harassing operations become more severe, the enemy's morale and mobility will deteriorate. We intend, therefore, to build up land forces which will enable us to exploit these conditions to the full and ultimately to occupy enemy territory to enforce terms of peace."

#### Bombing or Invasion to defeat Germany?

The success of our fighter pilots against the Luftwaffe encouraged the views, long held by a considerable section of the R.A.F. as well as by a small but air-minded section of writers on military strategy who must inevitably have been ignorant of the Staff Conversations with the United States, that even if we could not hope to meet the Germans on land we might destroy their military power by bombing. The influence of these writers upon public opinion and upon Government

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circles must remain in doubt. Briefly, the argument put forward was that we should begin by concentrating our productive powers upon turning out large numbers of weight-carrying bombers with a performance far superior to that of the German long-range bombers. We could, they argued, only achieve the maximum production if the building of expensive and obsolete weapons such as battleships was discontinued, while they believed that a small army would suffice for home defence and for occupying enemy territory. Manpower and materials should be mobilised to ensure the strongest possible attacking air force.

In this connection it was felt in official circles that to attain such an object American help was vital. Contacts between Service Staffs continued, and although the Americans were careful to point out that they were only acting as observers, it gradually became apparent from the scope and frequency of the conversations that United States production was being planned in the expectation that that country might soon become a belligerent on the side of the Allies. It was agreed that U.S. aircraft production should be allocated on a basis of 50 per cent to the British and 50 per cent to the United States Services. Various types were requested by the Air Ministry for the different theatres of war; American long-range bombers were requested for employment in Europe. The force of heavy bombers thus built up was to be employed in attacking German industrial areas, town by town, until Germany's power to make war was utterly destroyed.

Civilians and retired officers produced a mass of books and articles on this theme, from early 1941 up to 1944, both in the United States and in this

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country. (1) The opponents of this plan pointed out that the desired object could, in fact, never be attained by any force which it was in our power to build. The immense production of bombers and crews that was subsequently attained after the United States came into the war was not foreseen at that stage. Neither was the U.S.A.A.F. success in escorted day bombing expected by the most optimistic. Our own experience of Mark I Fortresses in September 1941 had been most discouraging. But in August 1942, A.C.A.S. (P) (Air Vice-Marshal Slessor) wrote to C.A.S. that after the Fortress daylight raids on Lille and Rotterdam he was convinced that the United States bomber force could penetrate Germany with great effect. C.A.S., however, was still doubtful. Those who believed in invasion as the only means of defeating Germany argued that we ourselves had soon learned the value of dispersal as a defence against bombers, and the enemy's scope for dispersal was immeasurably greater than ours. As he controlled nearly all the Continent he could, in time, have so planned his dispersal that our efforts could not have affected his output. Later experience also showed what he could achieve by a well-planned repair organisation and by going under ground.

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(1) Apart from official documents quoted from time to time in footnotes, the controversy mentioned above may be studied in greater detail by reference to some or all of the following:-

Mr. Churchill's speech to Congress in June 1941 in which he said that if it was true that bombing could win the war it was worth making the experiment.

Air Strategy. Norman Macmillan (Hutchinson, 1941).  
Victory in the Air. "Auspex" 1941.  
Strategic Bombing Holtzinger, Nineteenth Century, Sept. 1941.  
Bombing Policy Holtzinger, Nineteenth Century, May, 1942.  
Victory Through Air Power. Seversky (Hutchinson, 1942).  
Lord Beaverbrook's speeches in 1942, ("Express" files).  
Can Bombing Win the War? A/C/M Sir A. Longmore, Observer,  
21 June 1942.  
Policy Makers & Bombing Effort. "Narrator", Aeronautics,  
Aug. 1942.  
Is Bombing Decisive? Miksche. Allen & Unwin, 1943.  
Command of the Air. Douhet. Faber & Faber, 1943.  
Bombing Vindicated. Dr. J.M. Spaight, Geoffrey Bles, 1944.

Long-term Preparations for the Offensive.

While the controversy was going on month after month, the sponsors of the bombing plan were able to secure an acceleration in the production of new and improved heavy bombers. The discussion was not brought to an end by a clear cut decision that we would pin our faith to the policy of bombing Germany out of the war. On the contrary, the official view remained that when we had completed our preparations and when we were able to observe any real break in German morale as a result of the blockade and the air and other offensives, we should, in concert with other like-minded Allies and with the support of revolting populations, invade the Continent and liberate the conquered Nations. During the first three years, however, the strategists were always confronted by the fact that we were quite unable to produce land forces on a scale which gave any chance of implementing that policy. Our major resources were concentrated upon the re-organisation of the army, the improvisation of our home defences, and the reinforcement of strategic points within the Empire, at the same time as we were endeavouring to develop a heavy bomber force.

Parallel with the work being done to produce heavy bombers, experimental work and basic preparations for breaching the Atlantic wall and for putting our new model armies back on the Continent was being carried out. Our determination was to invade the Continent and destroy the Axis forces therein. How best to achieve this object, however, was not clearly seen.

Perhaps the best example of the change to thinking offensively was the setting up of the Combined Operations Headquarters in 1941, (first established as the Department of Combined Operations in June 1940) which performed such valuable services by insisting on the doctrine that

attack was the best defence, that any Cross-Channel operations must be jointly planned at one Headquarters, and that the training of our new forces must be undertaken with a fresh vision.

The indebtedness of the Allied Expeditionary Force of 1944 to the lessons taught by Combined Operations Headquarters was immense, not only in the new combat and assault technique but also in the new assault equipment, the development of new types of landing craft, the pressure by Lord Louis Mountbatten, since his appointment as C.C.O. in October 1941, for the construction of more embarkation ports and rail facilities in southern England, the training of bodies of Commandos in the lessons of a hundred small raids - and a few large ones: these are some of the fruits of the Combined Operations during the four years preceding D-Day itself. In addition to this, the C.C.O. had insisted for years that unified control was essential to the success of a combined (and of a joint) operation. He advocated the setting up of Combined Headquarters at Portsmouth, and Dover and later suggested that the assault forces should have Headquarters Ships with Combined Headquarters on board. The use of Fighter Director Tenders was also one of the contributions (to the plans for invasion) of the strong R.A.F. team on the staff of Combined Operations Headquarters.

The Washington Discussions (January-March, 1941).

Unification in Anglo-U.S. strategy and collaboration in executing common strategic aims were carried a step further as a result of discussions at Washington between representatives of the U.S. and British Chiefs of Staff. These lasted from the end of January until the end of March, 1941.

Their agreed conclusions were embodied in a document known as A.B.C.-1<sup>(1)</sup>. The British delegates had submitted

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(1) Full title B.U.S. (J) (41) 30 dated 27th March, 1941.

C.O.S. (42) 65(0)  
dated 18th March,  
1942, Memorandum  
by C.C.O. on  
"Preparations for  
Future Operations  
in France.

B.U.S. (J) (41) 2  
29.1.41.

a paper expressing the view that, assuming the United States became an active belligerent, the Allied forces should first concentrate on eliminating Germany and Italy from the war and then deal with Japan. A.B.C.-1 recommended economic pressure against all the Axis Powers, a sustained air offensive against Germany, (1) the early elimination of Italy from the war, and, during the period of Allied build-up, a series of raids on the coasts of occupied Europe.

At that time there did not appear to be any prospect of a successful Allied invasion of Europe. In November, 1940, Hungary and Rumania adhered to the Tripartite Pact: on the 10th of January, 1941, the Russo-German Pact was renewed: in March, Bulgaria and Jugo-Slavia threw in their lot with the Axis. But there were hopeful signs in the situation. The Italians in their campaigns against the Greeks and in N.E. Africa generally had revealed re-assuring weaknesses. The victorious Allied forces had advanced from Egypt as far as Agedabia by the 11th February, 1941, and were soon to subdue Abyssinia, Somaliland and Eritrea. The series of disasters to the Allied cause in the Balkans, the Middle East and North Africa had not commenced until the Staff Conversations were over. However, the opening of Rommel's successful campaign in Cyrenaica (30th March), the German invasion of Jugo-Slavia (6th April), the loss of Crete (20-31 May) and the confusion in Iraq and Syria, all produced a situation which made it difficult to act upon some of the strategic concepts of A.B.C.-1.

German Attacks on Russia (June 1941).

Concurrently with these controversies and these .  
/developments

See C.A.S.  
Folder No. 666.  
Telegram  
dated  
17.2.41.

(1) It was recommended that U.S. could help in this connection by providing, after September, 1941, flying boats, light bombers and fighters to be based in Iceland and N. Ireland, and a U.S. bomber wing based in England for the air offensive against Germany.

developments two great events occurred which had both immediate and permanent effects. The German attack upon Russia in the early summer of 1941 transformed the whole strategical situation. The weight of the Luftwaffe which had been constantly pressing upon Britain for a year was lifted and transferred bodily to the Eastern theatre. After this time, although a large proportion of the most modern of the fighter and bomber elements of the G.A.F. were stationed in the West they were stationed there for defensive rather than for offensive purposes.

Regardless of the results of the campaign in Russia it was reasonably certain that Britain had secured a respite against the threat of invasion. This was not to say that all fear of invasion had gone. Had Hitler succeeded in crushing Russia as quickly as he had Poland, the Balkans, and the Western Democracies on the Continent, the danger would have been all the greater. The removal of the Russian threat to his rear together with the addition of Russian resources might have made his power in Western Europe overwhelming. But it was felt that while the German forces were committed in Russia we had a breathing space in which we could re-orient our policy to make the most of the situation.

(1)  
The Atlantic Conference (August, 1941).

Within a few weeks President Roosevelt and Mr. Churchill had met in conference aboard ships off the coast of Newfoundland, whence they issued the celebrated "Atlantic Charter". This is important because it showed the world that the United States, though not at War, had lined up with the Democratic Powers against the Axis.

During the progress of the Conference the military representatives of the two Governments exchanged views on

/strategic

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(1) Code Name "Riviera".

C.O.S. (41) 155(0)  
31 July 41. =  
C.O.S. (41) 505  
(Annex 1):  
20 Aug. 41.

strategic questions of mutual interest. The British Chiefs of Staff presented a paper containing their views on future strategy and on the assistance that could be rendered by the United States. Briefly, it stated that action by blockade and bombing should be taken to weaken Germany until the time had arrived when it would be possible to re-enter the Continent. The heavy bomber would be the chief offensive weapon and U.S. help in this connection would be essential.

No decisions on strategy additional to those in A.B.C. -1 appear to have been taken at the Conference<sup>(1)</sup>, although the general opinion was expressed that any plan to defeat the Axis must include aid to Russia. Anglo-Russian and U.S.-Russian agreements had already been signed on the 12th July, and the 1st August, respectively.

Japanese and American Intervention in the War (December 1941).

While mighty battles were being fought in the siege of Leningrad and at the approaches to Moscow, and while the Russians were being steadily driven out of the industrial areas and rich wheatlands of the Ukraine, another momentous event took place on the opposite side of the globe. A great many observers had agreed with Hitler's declaration that Russia was already defeated at the beginning of December 1941. During the six months of fighting she had lost millions of casualties, enormous quantities of war material, very large territories, and perhaps a fifth or sixth of her population. It did not seem possible that large Russian armies could remain in the field for much longer. At that juncture Japan struck her treacherous blow at Pearl Harbour and began that career of conquest as swift as it was unexpected.

/Allied

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(1) A report of the Conference appeared as C.O.S. (41) 505 (Annex VI) = C.O.S. (R) 15 dated 20th August, 1941.

Allied losses were immediate, continuous and lasting. The loss of the U.S. Pacific Fleet, our rubber and base metal supplies from South East Asia and of our great base at Singapore with its men and its war materials, the new drain on shipping, and the necessity for building up very large forces in India, Ceylon and Australasia as well as in the Middle East, stretched our resources to the utmost. Our whole conception of strategy had to be completely revised, and our chance of a successful offensive against Germany had to be postponed. Morally and psychologically Japanese intervention in the war was almost a knock-out blow.

Fortunately it brought one overwhelming advantage which, in time, outweighed all the evils. The United States was committed completely and irrevocably to the war in such a way as to give the President a united nation behind him. In the long run this was the deciding factor. The whole of the productive powers of the United States could now be harnessed to the war effort and elaborate machinery was devised to control and co-ordinate the United Nations war effort and to allocate the resources at the disposal of the Allies according to agreed strategical plans.

The President and the Prime Minister with their political and military advisers met from time to time and decided the main lines of global strategy. On some occasions meetings were also held with the Russians and the Chinese. The United States and British Chiefs of Staff set up in January 1942, a permanent Combined Chiefs of Staff Committee at Washington which provided the expert examination of such strategy before its submission to the Statesmen. The British Chiefs of Staff Committee in London, and the United States Chiefs of Staff Committee in Washington, put up problems for consideration by the Combined Chiefs of Staff Committee. The functions of the C.C.S. were

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to control major strategy and thus to be responsible for the broad programme of war requirements based on strategic policy as well as for the allocation of resources as between theatres. They were served by Combined Planning, Intelligence and Transportation Staffs of U.S. and British officers. Five Combined Boards were also set up in Washington to deal with Munitions Assignment, Production and Resources, Raw materials, Shipping Adjustment and Food.

This machinery was set up to eliminate the waste that would have resulted from the unco-ordinated demands of all competing services. In addition, there were great numbers of important war-time committees set up in London as well as in Washington. Because war in modern times has become total war affecting every class of the community, the best results are obtained when every interest concerned is represented. In describing the administrative preparations made for a return to the Continent, therefore, and in relating these preparations to Allied strategy, it will frequently be necessary to refer to the work of many Committees, as the interests involved in such a vast undertaking were so important and so numerous.

British Plans for a Re-entry into France (1942).

Until the Americans began to take part, the procedure for planning cross-Channel operations had been somewhat lacking in uniformity. The Defence Committee and the Chiefs of Staffs Committee would consider the main lines of our strategy, and the Chiefs of Staff would then call for reports of possible operations, either from the Joint Planning Staff or from Force Commanders. Thereupon the C.O.S. might issue directives to Force Commanders to prepare plans to meet certain conditions. These directives would be drafted by the J.P.S. upon the instructions of the C.O.S.

The scope of each operation was, in those days, often defined somewhat loosely by setting a general object. The Force Commander would then prepare an outline plan within the framework of his directive, and submit it to the Chiefs of Staff's Committee for approval. Raids and small-scale operations were the responsibility of the Chief of Combined Operations. Large-scale operations were planned by the C.-in-C., Home Forces, usually in consultation with naval and air force commanders.

In view of the prominence which had been given to the functions of Army Co-operation Command in 1940 and early 1941, it is interesting to note that by 1942 the orthodox Air Staff view of the nature of air operations had prevailed. This view held that instead of handing over air formations to the control of Army Commanders in the field, air operations should be regarded as a whole and the air effort should be planned, coordinated and controlled by an Air Commander. Tactical air operations were regarded as air support rather than as army co-operation. In spite of the fact that Army Co-operation Command had been working side by side with G.H.Q., Home Forces, the task of planning Continental air operations was not entrusted to that Command but to Fighter Command which for over a year had been conducting a Cross-Channel air offensive with considerable success.

Despite the changes in the strategic situation brought about by the German failure to put Russia out of the war, and by the new factor of American participation as a belligerent, our strategy at the end of 1941 was still dictated by the fact that we should have to remain on the defensive for some time to come. Our ultimate determination was to invade the Continent with the forces necessary to defeat the enemy. For this purpose long-range preparations were already being put in hand.

/But

But in view of the fact that sooner or later cumulative results were generally expected to show themselves from the blockade, the bombing offensive, the exhausting war in the depths of Russia, the spreading and stretching of Axis resources from the Mediterranean to the Arctic, and from the resistance of conquered populations, and perhaps also because the suddenness and speed with which Germany collapsed in the last war was still remembered, our strategy also required the constant preparation of plans to exploit any sudden break in German morale.

"Round-up" and "Sledgehammer".

There were two main types of large-scale Cross-Channel operations under consideration in the first months of 1942, known by the code words "Sledgehammer" and "Round-up". At that early stage the C.O.S. were always unable to prescribe with complete exactitude what each type of operation should be, but it may be accepted as broadly true that "Round-up" was a large-scale assault whose object was the final overthrow of the German armed forces in the West, while "Sledgehammer" was an operation of limited scope which envisaged the use of rather less than ten divisions. A crack in German morale was to be in sight before either was to be launched. These definitions did not, however, fit every proposed operation which was given one of those two names. As the latter was the smaller-scale operation and as the pre-requisites for "Round-up" were extremely unlikely to materialise for some time, it will be gathered that although many long-range preparations were made for "Round-up", "Sledgehammer" was the most discussed operation in the first part of 1942. "Round-up", needing more preparation, was regarded as a decisive operation to be kept in mind as the ultimate policy.

/"Round-

"Round-up".

"Round-up" was born before America came into the war. The first real progress upon it was made in December 1941, when the Joint Planning Staff produced a "Report on Operation "Round-up"", which included a Staff Study of an outline plan and a draft directive to C.-in-C., Home Forces. The latter had already been entrusted with the task of commencing planning for "Round-up" in a directive from the Chiefs of Staff dated the 7th November 1941, but had been unable to make any progress.

The Joint Planners recommended that their Staff Study be taken as "a basis for preparation, organisation and production by Service departments" and added that the preparations they had in mind included the provision of landing craft and crews, beach equipment and personnel, airfields, embarkation beaches and accommodation in Southern England, Army and R.A.F. administrative echelons, signals arrangements, air transport, bridging equipment and arms for patriot forces.

Full consideration could not be given to the matter at once because of the Atlantic Conference which was held from Christmas to the New Year, but C.-in-C., Home Forces, reported that shortage of landing craft and trained troops made any large-scale operation impossible for some considerable time. The J.P.S., however, while in general agreement with C.-in-C., Home Forces about the limitations imposed by these shortages, replied that we should be prepared to undertake an operation by Spring 1943 with the object of establishing a permanent foothold on the Continent. In the event of crumbling opposition, this might take the form of a hasty return to France in 1942 (code word "Tinder"<sup>(1)</sup>) or, alternatively, it might be a deliberate assault with larger forces in 1943 ("Round-up"). The draft directive to C.-in-C., Home Forces, annexed to J.P. (42) 124, emphasised the point that there were

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(1) Code name soon changed to "Sledgehammer".

J.P. (41) 1028  
dated 24.12.41.

C.O.S. (41) 243(0)  
dated 7.11.41.

J.P. (42) 124  
dated 11.2.42.

two distinct operations for which plans and preparations must be made.

"Sledgehammer".

Discussions on the smaller and, from a British point of view, more practicable operation began at the highest level when the C.C.S., in conference with President Roosevelt about the possibility of helping Russia, considered a suggestion by Air Vice-Marshal Evill, senior R.A.F. member of the J.S.M. Washington, that a joint land and air operation to establish a bridgehead on the Continent would produce an air battle which would waste the German Air Force and thus relieve the Russians. This discussion was made known to Air Ministry in a communication received on the 3rd March 1942.

J.S.M. 104  
dated 3.3.42.

J.P. (42) 243

The J.P.S., in a Note to the C.O.S. Committee dated 7th March 1942, pointed out that apart from shipments of material ~~were~~ <sup>we</sup> were giving no help to Russia. They considered that we might with advantage use ships, troops and air forces for mounting bridgehead operations by mid-May with the object of improving the technique of the Army, of diverting air forces and troops from Russia, of bleeding Germany, and of cutting German coastal shipping. The C.C.O. and C.-in-C., Home Forces also contributed papers on this subject, which were all discussed by the C.O.S. Committee on the 10th March 1942. This type of operation was thereupon named "Sledgehammer" and it was decided to explore its possibilities further.

C.O.S. (42)  
78th Meeting,  
6th item.

J.P. (42) 274(S)  
Revised draft.

A week later the J.P.S. reported that such an operation could not divert enemy land forces from Russia because we should be unable to threaten any objective vital to Germany like the Ruhr, but as the object to bring on an air battle might well succeed, they recommended that planning should proceed under the C.C.O., an Army Commander, and an Air

/Commander.

Commander. Among the immediate measures proposed by the J.P.S. in this discussion were the earmarking of a H.Q. ship (being developed by Combined Operations), training of R.A.F. personnel in combined operations, steps to revive ports in Southern England and to install suitable anti-aircraft defences therein, and the construction of hards for embarking vehicles.

The Chiefs of Staff discussed this paper with the J.P.S. and instructed them to review the possibility of relieving pressure on Russia and to prepare accordingly a draft directive for C.-in-C., Home Forces. They did not believe that we could afford the losses likely to be sustained in attempting to gain and hold a permanent bridgehead, but a large-scale raid in the Calais area might draw the German Air Force into battle on terms advantageous to ourselves. Both Sir A. Brooke and Sir D. Pound appeared to have little expectation that such an operation would ever be mounted, but the Committee agreed that the planning would be of value to "Round-up".

C.O.S. (42)  
86th Meeting,  
17.3.42.

Soon afterwards the C.O.S. Committee invited C.-in-C., Home Forces, A.O.C.-in-C., Fighter Command, and C.-in-C. Portsmouth to discuss with them, and afterwards make plans for, a Cross-Channel operation "to make Germany continuously employ her air forces in active operations and to cause protracted air fighting in the West in an area advantageous to ourselves in order to reduce the German air support available for the Eastern fronts as early as possible." The C.-in-C., Home Forces (Sir B. Paget) said that a lodgment in the Calais area could be secured if sufficient forces and landing craft were made available, but that sufficient of these would not be ready by June 1942. In any case, if Germany beat Russia quickly then they would soon oust us from our foothold. The same landing craft shortage would also exclude a protracted raid of two or three weeks duration.

C.O.S. (42)  
91st Meeting,  
21.3.42.

The A.O.C.-in-C., Fighter Command (Sir Sholto Douglas)

/said

said that given time to accumulate aircraft he favoured an operation in the Calais area, while C.I.G.S. mentioned the possibility that the German Air Force might withdraw air forces from Russia and it was, therefore, vital to stage the battle where our air supremacy gave us the greatest advantage. C.A.S. (Sir C. Portal) suggested that paratroops might also be used in raids on the Calais area.

C.O.S. (42) 65(0)  
"Preparations  
for Future  
Operations in  
Northern  
France."

The Meeting also discussed a memo by C.C.O. which, although drawn up as the result of a Meeting attended by only one R.A.F. representative out of the score of those present, made some valuable recommendations of considerable air interest. It advocated the expansion of port facilities on the South coast, the increase of air defences at those ports, and the setting up of Combined Headquarters at Portsmouth and Dover.

The C.O.S. Committee decided to send a minute to the Prime Minister recommending these suggestions. The planning of Cross-Channel operations, they decided, was to be the responsibility of C.-in-C., Home Forces, A.O.C.-in-C., Fighter Command (and, where applicable, A.O.C.-in-C., Bomber Command) with C.C.O. in close consultation. "Once an operation or a directive for planning had been approved in outline by the C.O.S. Committee it would be a great advantage if the joint planning procedure outlined above could be adopted." They thereupon invited C.C.O., C.-in-C., Home Forces and A.O.C.-in-C., Fighter Command to prepare a brief Appreciation with the object of diverting the German Air Force from the Russian front. "It is intended ..... to threaten ..... a permanent return to the Continent ..... planning is to be commenced forthwith ..... "You should assume that the full support of Bomber, Fighter and Army Co-operation Commands will be available for this operation and for any advance operations desirable .....

/"You

"You are authorised to initiate certain immediate preparations in advance of the final approval of your plans."

Mr. Churchill commenting on the recommendation to re-open the South Coast ports said that the scale of the operation must be decided first, and called attention to the danger of air attacks during a period when our forces were being marshalled.

The Chiefs of Staffs Committee considered the Combined Commanders' Report on the 28th March, 1942. Its general tone was most discouraging. The Army authorities were convinced that unless German morale was broken a re-entry into France with the resources at our disposal in 1942 was unlikely to be a success. Although this conclusion was reached in the early Spring this remained the official opinion of the Army up to the end of the year.

Sir Sholto Douglas was, however, more sanguine about the prospects of an air battle and of its outcome. Confident of the support of the Air Ministry he had induced his fellow Commanders to report that the limited object given by the C.O.S. Committee could be achieved by air action alone if the operation took place in the Pas de Calais area. The Committee agreed that the Calais area was the only place where the military objects could be achieved, although the C.A.S. doubted whether air operations alone could impose sufficient wastage on the German Air Force to help Russia appreciably. However, the Committee instructed the Combined Commanders to investigate the matter further.

A Joint Memorandum from the Combined Commanders was presented to the Chiefs of Staffs Committee for discussion on the 3th April 1942. It was now stated that an operation of the nature outlined, i.e. to seize and hold a bridgehead in the Calais region was practicable "against the present scale of defences and providing the maintenance problem can be overcome." "If the information regarding enemy

/dispositions

C.O.S. (42) 77(0),  
27.3.42. "Joint  
Report by C.-in-C.  
Home Forces,  
A.O.C.-in-C.  
Fighter Command,  
and C.C.C.".  
C.O.S. (42)  
98th Meeting,  
28.3.42.

C.C.S. (42) 92(0),  
7.4.42, "Joint  
Memorandum by  
C.-in-C., Home  
Forces, A.O.C.-  
in-C. Fighter  
Command and C.C.C.  
C.O.S. (42)  
110th Meeting.

dispositions is correct and if there are no increases" they believed that that Summer presented an opportunity "which, if resolutely seized, might lead to far reaching results." But there were so many risks and hazards to these provisions that the Chiefs of Staffs Committee was not encouraged to proceed with the matter. Now that the Combined Commanders began to visualise an offensive operation which might be practicable if the problems could be solved and if the risks were acceptable, C.I.G.S. decided against the plan. He pointed out that the assumption that this country was no longer in danger of invasion was unwarranted and, therefore, the scale of the forces required for "Sledgehammer" would gravely deplete our defences. In any case, the Combined Commanders had not restricted themselves to their terms of reference, which were to report on an operation whose object was to make Germany employ her Air Forces on conditions favourable to us and not to secure a bridgehead. The aim was to relieve the pressure on Russia this Summer. Sir B. Paget said that the operation would only be practicable if all the conditions were fulfilled as specified in their Joint Memorandum and even then only if further study should solve the greatest problem, that of maintenance over open beaches. It was also stressed that a limited or unsuccessful "Sledgehammer" might seriously compromise the chances of "Round-up" by encouraging populations to rise in the expectation that a short term raid was the genuine invasion.

After an inconclusive discussion the Chiefs of Staffs Committee invited the Combined Commanders to examine once again what action could be taken in the west to help Russia if she was hard pressed that Summer, and then invited Sir Sholto Douglas (in consultation with Bomber Command) to report on how to inflict by air action alone the greatest possible wastage on the German Air Force after the German Spring offensive began in the East.

/Finally,

Finally, the C.O.S. Committee approved the proposal that the responsibility for planning "Round-up" should, in future, rest on C.-in-C., Home Forces, in conjunction with C.C.O. and A.O.C.-in-C., Fighter Command, (or other R.A.F. Commander as necessary), rather than on C.-in-C., Home Forces, in conjunction with the Admiralty and Air Ministry as formerly had been the case. The change was made because it had been found in practice that the planning procedure for "Sledgehammer" had worked better than that for "Round-up".

Summary.

This brings to an end the first period of preparatory investigation into the problems of a re-entry on to the Continent. After the unprepared state in which Britain and her Allies entered the war and the series of unparalleled disasters which followed during the first two years of hostilities, it would probably be too much to expect that preparations for putting suitable forces back on the Continent so soon after they left it would have reached an advanced stage by the first weeks of April 1942. All our attention had been focussed upon forging the means to seal us off from the mainland, and prolonged efforts would be required before we should have been in a state to think of invading the Continent once more. Japanese intervention in the war a few months earlier had stretched our resources still further.

The power of the Axis was still on the up-swing and the strategic situation offered no grounds for that naive type of optimism which sought to establish a "Second Front" in order to save Russia without understanding fully how meagre were our own resources. We were quite powerless to do anything in the absence of evidence of a definite crack in German morale, and such evidence was certainly not apparent in the Spring of 1942. On the other hand, in spite of the expectations of many responsible authorities, Russia had

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also not shown the signs of collapse which might have resulted from her enormous losses. India, Ceylon and Australia so far remained intact and were being successfully reinforced, while the Americans for their part were now more confident that the line Alaska - Hawaii - Somoa - Australia would hold.

There were so many imponderables in the situation that our strategy had to allow for several possibilities. No single definite line could be taken, and this uncertainty was reflected all down the scale from the highest to the lowest levels. The one clear aim that was evident all through this period was to defeat Germany first, and we were fortunately successful in convincing the Americans of this necessity from the outset. When it came to translating this aim into practice, however, our planners came up against many problems which could not be solved without prolonged study. It was this stage that they had reached in April 1942.

The most tangible results of this first period were that a procedure for planning a Cross-Channel operation was being slowly evolved using Headquarters, Home Forces, as the senior partner in the work with the C.C.O. as the expert on problems pertaining to the assault phase of the operation and the A.O.C.-in-C., Fighter Command, as the Air Force Commander. The Naval Staff had not yet selected the most suitable agency for contributing the naval share of the joint plans. The Americans had, as yet, only taken an interest in the planning as observers who soon hoped to be sitting in the game. They were taking a prominent part in the direction of higher strategy, but they had not, as yet, done any detailed planning for the European war. They had had a headquarters in London <sup>(1)</sup> since January 1942, but this organisation was

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(1) H.Q. U.S.A. Forces, British Isles, under General Chaney was the successor to the Special Observer Group headed by General Chaney since its establishment in London in May, 1941. In June, 1942, the name was changed to H.Q. European Theatre of Operations, U.S.A. (ETOUSA).

mainly working upon the problems connected with the Americans crossing the Atlantic (1) rather than upon those connected with crossing the Channel.

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(1) i.e. with the establishment of American Bases in Ulster and Eastern England.

III. ALLIED PLANS TO DEFEAT GERMANY IN 1942 AND 1943

The Marshall Plan

J.P. (42)383(S)  
on 9.4.42.

On the 9th April 1942, General Marshall, who was with Mr. Harry Hopkins on a visit to London, met the C.O.S. Committee and presented a Memorandum on Offensive Operations in Western Europe which has subsequently been known as the "Marshall Plan." Either as a statement of American policy or as an example of the vigour of its American outlook, from the point of view of the scope of its proposals or of its resemblance to the final shape of the "Overlord" conception, this Marshall Plan must be regarded as the most important document in the history of planning the return to the Continent. It clearly indicated that the American Government had accepted the British view that the main effort against the Axis should, in the first instance, be exerted against Germany rather than in the Pacific. This view had been accepted by General Marshall and General Arnold and was opposed consistently by Admiral King and General McArthur. The plan also showed that the Americans intended that their forces should be on a scale commensurate with the task.

The proposals in this plan were based on the conviction that it was essential to invade France at an early date in order to relieve Russia and to prevent all Europe from becoming a part of the Axis system as well as to provide training and experience for American troops. Western Europe was the most convenient area in which to achieve the objects of our combined strategy because British and American strength could more easily be gathered, developed, and launched on to the mainland from the United Kingdom than from any other base.

The scale upon which the operation could be mounted and the time when it could be commenced would depend upon how many ships

and landing craft could be made available but General Marshall believed that all preparations could be completed by the 1st April 1943.

Outline Plan for "Round-up"

His outline plan required 5,800 combat aircraft and 48 Divisions. Of the total number of combat aircraft, it was proposed that 3,250 should be provided by the United States forces, while 2,550 should be furnished by the R.A.F. The combined Army should be composed of 30 U.S. Divisions, and 18 British Divisions, plus some paratroops and A.A. formations.

The enormous administrative problems that would be involved in the acceptance of the plan were referred to at some length because they would have to be settled at an early date if the target date was to remain the 1st April 1943. Specific reference was made in the plan to the need for British troopships to ferry 600,000 of the total of over a million American troops across the Atlantic. Adequate numbers of landing craft (7,000 was the figure suggested) and reserves would have to be available and major constructional work would have to be done in 1942.

"Sledgehammer" Proposals

The Americans believed that preparations should also be completed for a more limited operation should the situation in Russia become desperate or, alternatively, if Germany became critically weakened in the interim. In those circumstances, however, though the President, Mr. Harry Hopkins and General Marshall were insistent that the project of a "Sledgehammer" in 1942 must not be rejected without the most searching enquiry and without the prior agreement of Mr. Roosevelt, the Americans would only be able to provide a very small proportion of the forces that would be involved. The Marshall Plan provided for a probable U.S.A.A.F. contingent of 400 fighters, 300 other combat aircraft and 200 transport aircraft if such a small-scale invasion took

place in September-October 1942, while the British were required to put up 2,600 fighters, 2,400 combat aircraft other than fighters, and an unspecified number of transport aircraft. Owing to the bottleneck in landing craft a bridgehead could probably only sustain about 5 Divisions, a half of whom might be Americans.

C.O.S. (42) 23rd  
Meeting(0) on  
9.4.47.

In unfolding his plan to the British C.O.S. General Marshall said that the United States troops would come to the United Kingdom in larger numbers at the end of August after the necessary reinforcements to the Pacific, to Iceland and to Ireland had been sent. He expected that by mid-September . . . U.S. forces on the scale suggested for the limited operation in 1942 (Sledgehammer) would have arrived in the United Kingdom.

C.I.G.S. informed the United States General that British staffs had studied a number of possible eventualities:-

- (a) Commander-in-Chief, Home Forces, was considering how to exploit the situation if Germany suffered a heavy reverse in the summer.
- (b) Land forces might be used as a bait to bring on air battles in circumstances advantageous to ourselves if Russia fared badly.
- (c) Raids might be carried out from Norway to the Bay of Biscay to produce a feeling of uncertainty and insecurity.
- (d) The development of the South Coast ports might be regarded as an indirect threat to the Continent.

The nine divisions we might be able to put ashore would not be strong enough to maintain a beachhead for any length of time, yet to lose such a force would be more than we could afford. We were deeply concerned with the danger of our position in India and the Middle East. It was fraught with the most dangerous possibilities.

C.C.O., after explaining that it was intended to stage as many small raids as possible in 1942, said that any operation on a scale larger than a raid would entail much improvisation of landing craft.

/ C.A.S.

C.A.S. said that operations in September were too late for conditions favourable to successful air battles and too early for prolonged air effort. Close air support of land operations would be expensive in fighter aircraft, especially if the beach-head was established after the Germans had been successful in Russia. We could not afford more than one or two months of fighting. Air action alone might produce the results required and we were investigating whether we could force the German Air Force to fight in conditions advantageous to ourselves.

The considered views of the British Service Chiefs were summarised in a Paper produced on the following day. It was agreed at the outset that it was vital to keep Russia in the field. It was also agreed that Western Europe was the most suitable theatre for opening a major offensive against Germany. Consequently plans for this major offensive should be concerted at once.

But operations in 1942 depended upon what happened in Russia. If she was being beaten we might be compelled to make an effort to draw off German forces from the eastern front. In these circumstances the sooner American air and ground forces arrived in the U.K. the better for us.

If neither side was able to force a victory then a diversion in the West might turn the scale. But such a diversion might be better in 1943 than in 1942.

If Russia was seen to be winning we should not hesitate about placing forces on the Continent. In all eventualities the first moves would have to be made by the British because they would have to take place in August before American forces could arrive. The most immediate requirements from the United States were transport aircraft and crews, paratroops and fighter aircraft - the latter for the Middle East to enable Spitfire reserves to be built-up in the United Kingdom.

/ Meanwhile

C.O.S. (4297(0)  
dated 10.4.42.

Meanwhile action must be taken to hold Japan.

American air and naval help was urgently required for this purpose and the consequences of Germany and Japan effecting a junction in the Middle East were emphasised.

C.O.S. (42) 25th  
Meeting (0) on  
14.4.42.

General Marshall discussed this Memorandum with the British Chiefs of Staffs before he accompanied Mr. Harry Hopkins to a meeting of the Defence Committee on the 14th of April. Shortage of shipping would prevent United States forces arriving in the U.K. before September, he said. Cargo shipping was in still shorter supply, and troops would consequently be short of their equipment unless some British cargo vessels could be released for this purpose.

With regard to the serious situation existing in the Eastern theatre, he promised to speak to the President and to the U.S. naval authorities, whose primary responsibility this would be. The American aircraft in India were originally intended to aid China and also to defend communications.

The C.A.S. said that air reinforcements must go to the Middle East and India. If more United States aircraft could be sent there we could mount American units sent to the United Kingdom on British aircraft. There is no record that this suggestion met with any response on that occasion, but when repeated on other occasions it was unfavourably received because this procedure did not conform to the policy of the U.S. Government to keep their forces 100 per cent American.

General Marshall expressed the opinion that it appeared likely that we should be forced by circumstances to invade in a few months' time. Problems apparently insoluble become eased after concentration and we must not so disperse our resources as to have little left for operations on the Continent.

/ C.I.G.S.

C.I.G.S. concluded the meeting by saying that the small scale and military value of any operation we might be forced to stage on the Continent in 1942 should be compared with the danger that would result from Germany and Japan joining hands in the Indian Ocean.

On the same day, Mr. Harry Hopkins and General Marshall

D.O. (42) 101st Meeting on 14.4.42. presented the Plan to the Defence Committee.

British Acceptance of U.S. proposals.

The British reaction to the proposals was most favourable. The Prime Minister said that the conception underlying this momentous proposal accorded with the classic principle of war, viz: concentration against the main enemy. Mr. Attlee and Mr. Eden both concurred in this view and spoke of the two English-speaking peoples setting out for the redemption of Europe.

But they all made one important reservation which, in General Marshall's view, might seriously prejudice the success of his plan, namely, that we must not concentrate in Great Britain to the neglect of the Indian Ocean. Ceylon was the linchpin of our strategy and Abadan oil the life blood of our operations in that theatre. Nothing was to be done which might so weaken us in that area as to enable Germany and Japan to join hands. If the Japanese gained the ascendancy in the Western half of the Indian Ocean, and if the Germans overran Egypt, Turkey would fall and Germany would thus turn the flanks of Russia, succeed in reaching the Caucasus, and cut the southern supply route. We would not in any circumstances contemplate the loss of India.

The C.I.G.S. was in complete agreement with General Marshall about operations for 1943, but was in some doubt as to the proposed operations for 1942. He did not favour any attempt to sustain a bridgehead on the Continent if Russia was giving way on the grounds that Germany could easily deal with any force we could land and the loss of such a force would dangerously weaken

our defences. He believed that we should try a limited operation possibly before September 1942, if Russia held the Germans. This might consist of an attempt to detach German air forces from the East.

The C.A.S. followed this up by considering what could be done in the air in 1942 without American help. He calculated that if the R.A.F. were compelled to protect land forces engaged in two months continuous operations (in the Autumn) we should have sacrificed the whole of our fighter force. He suggested that this could be avoided by allocating American aircraft to all overseas theatres and by mounting all U.S. units arriving in the U.K. on British machines withdrawn from export.

Mr. Harry Hopkins said that the American Government understood the British desire for security in the Eastern theatres of war but were most anxious to operate against Germany on land and in the air as well as on the sea. They also wished to fight where they could attain superiority side by side with the British. He assured the Defence Committee that their whole heart would be fully engaged in this enterprise.

The Prime Minister summed up by saying that all were agreed on the essentials of the Plan. The details remained to be worked out. The two Nations would march ahead together in a noble brotherhood of arms. He would inform the President accordingly. Full preparations could now start in which Britain would contribute her just share.

The details to be worked out received a preliminary examination by a Committee of U.S. and British Service representatives arranged in accordance with C.O.S.(42) 24th

C.O.S.(42)III(0) Meeting (0). Five meetings were held and six Papers on  
25.4.42. "Operations on the Continent - U.S. -  
British Planning".

/ various

various aspects of the Plan were handed to the U.S. planners for further study after they had returned to the United States.

U.S.P. Staff Talks on Marshall Plan.

The Chairman of the Combined Committee was Colonel the Right Hon. Oliver Stanley. At the conclusion of its deliberations (14th April) he gave his personal impressions of its work to the Directors of Plans. "If the object of the ad hoc committee was to instruct the Americans in the facts of life without damping their youthful enthusiasm it had failed", he said. It required a longer time to overcome their "confidence" and "ignorance". But another reason for its failure was the backward state of "Round-up" plans which had made no progress since the responsibility for the operation had been handed over to Home Forces. "The tactical plan and the administrative requirements of "Round-up" have been scrapped and nothing has been put in their place." "As a result, the British representatives from Home Forces, C.O. H.Q., and the War Office all expressed different opinions in front of the Americans." "The latter had only tentative plans to offer." "It is essential to work together with the Americans on detailed practical plans."

Colonel Stanley's analysis of the causes for the committee's failure to bring the American officers down to earth no doubt contained a great deal of truth, but it is also plain that the judgements of these American officers as to what they were capable of doing were at least as near the truth as were the somewhat condescending estimates of Colonel Stanley and his associates. If the Americans appeared over-optimistic and unrealistic to our planners the latter must have seemed timorous, unenterprising and slow by American standards.

The other point of interest in Colonel Stanley's impressions is that his strictures did not apply to any of the

five R.A.F. officers<sup>(1)</sup> who attended these meetings.

The six U.S.P. Papers summarising the discussions were handed to the Americans for further study, and serve to illustrate the stage which administrative planning had reached by that time.

#### Movement

U.S.P.(42)1  
dated 16.4.42.

The first Paper, compiled by the Director of Movement, War Office, dealt with problems connected with the movement of large American forces and their equipment to Great Britain. There was sufficient personnel shipping in sight for the transport of 750,000 men by the target date. The balance of 250,000 men could be brought over only at the expense of some other commitment, but there was no insuperable difficulty about that.

Cargo shipping would be a greater problem. It could only be solved by reducing commitments elsewhere, such as by reducing still further the level of U.K. imports or of supplies to Russia. To ease the problem it was suggested that the U.S. authorities might take action to scale down shipments, assemble vehicles in the United Kingdom, reduce the scale of war reserves and the scale of stores considered necessary to their troops.

#### Accommodation and Maintenance

U.S.P.(42)2  
dated 17.4.42.

The second Paper came from the Deputy Q.M.G's Department and was entitled "Accommodation and Maintenance in the United Kingdom". It recommended that the whole Southern Command area be turned over to the United States forces, and reviewed the accommodation, storage, transportation and labour problems involved. Skilled labour would be the greatest difficulty and United States Labour Units should therefore be among the first arrivals in the United Kingdom.

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(1) The R.A.F. representatives were:- G/Capt. N.S. Allinson, G/Capt V.E. Groom, A/Cdre P.F. Fullard, A/Cdre V.H. Tait and G/Capt A.C.H. Sharp.

U.S.A.F. Accommodation

The Air Member for Supply and Organisation put in a Paper on the "Accommodation of the United States Air Forces." Arrangements for the United States Bomber Command had already been made. It was considered desirable that Pursuit Groups should be located in South-East England and Transport Groups in South-West England. A preliminary opinion was given that there was no time or labour in the United Kingdom to construct new aerodromes in South-East England by the date stated and in consequence single strip Advanced Landing Grounds were suggested as a compromise. It was concluded that there should be ample airplane capacity by April 1943, but that there would be an acute shortage of accommodation and dispersals unless immediate measures were taken. Finally, to make an accurate appreciation of this whole commitment it was essential to know -

- (1) The progressive rate of U.S.A.A.F. arrivals:-
- (2) their establishments;
- (3) the areas where they were to be located.

R.A.F. Target Force

A short paper on the aircraft available was submitted by the Director of Plans, Air Ministry. It stated that the whole bomber force<sup>(1)</sup> would be available in support of Continental operation, with the addition of sixty fighter squadrons (960 aircraft). This total force of 2,640 aircraft may be compared with General Marshall's proposals that 2,550 British aircraft should be made available for "Round-up". While the numbers of bombers were larger than proposed, the number of British fighters fell short of General Marshall's suggestion by 590 aircraft.

U.S.P. (42)4  
dated 16.4.42.

/ Landing Craft

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(1) Explained at the U.S.P. (42)4th Meeting as being estimated at 1,680 aircraft at the commencement of 1943.

Landing Craft

U.S.P. (42)5  
dated 16.4.42.

The Chief of Combined Operations signed the fifth Paper on "Landing Craft Requirements". It envisaged the use of upwards of 2,000 landing craft of all types, as opposed to General Marshall's suggested total of 7,000. At that date it was estimated that there would be a deficiency of about 50 of the 2,000 landing craft considered necessary.

General Administrative Problems of the Expeditionary Force

U.S.P. (42)6  
dated April,  
1942.

The final Paper, contributed by G.H.Q. Home Forces, the body responsible for most of the "Round-up" planning to date, was entitled "Main Considerations Affecting the Employment on the Continent in 1943 of the Anglo-American Forces Envisaged in General Marshall's Paper." After considering possible assault areas under the headings of "Major Port Capacities", "Fighter Cover", "Development after Assault", "Beaches", and "Aerodromes", it was concluded that for 45 Divisions to arrive fast and be maintained the assault would need to be on a wide front. To enable such an operation to take place there was an immediate requirement to increase the radius of effective fighter cover,<sup>(1)</sup> seeing that fighters would have to be based on Southern England during the most critical phase of the assault.

Before that conclusion was stated an interesting point, which had not formerly been emphasised, was made in connection with the fact that only in the Calais area were the existing G.A.F. aerodromes adequate to support the operations contemplated. An alternative to relating assault forces to the number of existing German aerodromes was to relate them to country suitable for the construction of new airfields. This would, however, involve a distinct and major

/problem

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(1) At the 3rd meeting G/Capt. Groom had stated that by April 1943 all Spitfire squadrons would be equipped with long-range tanks.

problem of administration and would call for an even larger number of Aerodrome Construction Units. Further, it was noted that many of the suitable areas were likely to have been used already by the enemy for this purpose and, therefore, to be included in the existing concentrations.

The success of subsequent operations would depend upon how far the problem of operational mobility now being studied had been solved. A cut in the scales of motor transport might have to be imposed. The same cut might have to be imposed to secure administrative mobility, in view of the expected damage to Continental railways and canals. The employment of transport aircraft might afford valuable help, especially in a dash to capture a major port.

The Maintenance of an Expeditionary Force.

Maintenance and movement were considered so important to a combined operation of this nature that a special Appendix A entitled "Notes on Maintenance Problems and Factors Involved in an Opposed Landing and Subsequent Maintenance of a Force Overseas" was annexed to the Paper.

It dealt with the problems involved, in four main divisions:-

- (A) Maintenance across beaches.
- (B) Maintenance through ports.
- (C) Maintenance inland.
- (d) Transporter aircraft.

(A) Factors considered under the first heading were the characteristics of beaches, such as their slopes, exits, range of tides, hardness, and weather aspects. Observations were then made on the landing and clearance of men, tanks, vehicles, and stores on and from these beaches.

(B) The capacities of ports from Antwerp to Brest after being in our hands seven days and one month respectively, were estimated in the second section, as these capacities would be the governing

/ factor

factor in the transfer of the maintenance organisation from the beaches to the ports.

The normal scale of maintenance was calculated to be in the neighbourhood of 2,000 tons per day for  $1\frac{1}{2}$  million men, i.e. half a ton per man per month. As this was an Army Paper it did not deal with R.A.F. maintenance, which, it stated, would depend on the number of squadrons and the airfields in use; and furthermore the above scale did not cater for prolonged and abnormal expenditures.

The estimated combined capacities of all the ports from Antwerp to Brest would just cover this commitment after they had been in our hands for one month, provided trained personnel and special equipment were prepared beforehand.

(C) The division dealing with maintenance inland was only a tentative statement that we must expect such destruction of railways and canals that our advance would have to be nourished by road transport. The special problem of maintaining the force to capture Antwerp, upon which part the forces operating against Germany would largely have to depend, was mainly that of the speedy restoration of roads and bridges, and of the successful landing of sufficient vehicles. A survey of the requirements for railway equipment would have to wait on the preparation of the operational outline plan.

(D) One-and-a-half lines stating that the use of transporter aircraft would be essential to supply forward troops in the initial and the later stages of the operation concluded Appendix A.

Responsibility for the Development of Plans.

C.O.S. (42) 103  
(O) (Final)  
dated 18.4.42.

A Memorandum by the C.O.S. defined the policy for assigning responsibility for the development of the Marshall Plan so that planning and preparations for operations in 1942 and 1943 could proceed concurrently and with efficiency.

The offensive was to be developed in the following stages:-

- (a) The conversion of the United Kingdom into an advanced base for operations in Western Europe:
- (b) The development of preparations on a front stretching from the Shetlands to the Bristol Channel:
- (c) A series of raiding operations to be carried out during the summer of 1942, coupled with
- (d) An active air offensive over north-west Europe:
- (e) The capture of a bridgehead on the Continent within the area in which adequate naval and air cover could be given during the summer of 1942 if the opportunity occurs:
- (f) A large scale descent on Western Europe in the spring of 1943.

(a) U.K. Base

To convert the United Kingdom into an advanced base for operations against Germany as in (a) above, airfields and accommodation on a considerable scale would be required: harbours and railways might also require development. To carry out this conversion the Chiefs of Staff proposed that:-

- (1) An Inter-Departmental Committee should be set up with representatives of Home Forces and C.O. H.Q. to resolve the problems connected with the conversion of the United Kingdom into an advanced base for these operations.
- (2) The United States be asked to provide a large proportion of the labour and machinery involved after the War Office and the Air Ministry had estimated their requirements.
- (3) The United States to be asked not to take away labour already in the United Kingdom.

(b) Development of Preparations

Preparations would begin in the South and South-East for a "Sledgehammer" in 1942, but would widen as time went on

to mislead the enemy. Responsibility for initiating these preparations would be shared by C.O. H.Q. and G.H.Q., Home Forces.

(c) Raiding Operations

The same two Headquarters were to be responsible for raids on a wide front from Norway to the Bay of Biscay.

(d) Air Offensive

Fighter Command was to continue and intensify the Air offensive.

(e) "Sledgehammer"

We must be prepared to capture a bridgehead in the summer of 1942 if the opportunity occurred. Home Forces and Fighter Command were responsible for the plans, and American forces were also to be employed.

(f) "Super Round-up"

The Commander-in-Chief, Home Forces, in conjunction with the A.O.C.-in-C., Fighter Command (and other R.A.F. Commanders as necessary) and C.C.O. had already been charged

C.O.S. (42) 21st Meeting (0) with the responsibility for planning "Super-Round-up".

United States staffs were to join C.O. H.Q. and G.H.Q., Home Forces, to develop the expanded plans. Intelligence staffs were, in future, to concentrate their attention on Continental operations. Appropriate action was also to be taken by Special Operations Executive and by the organisers of Patriot forces.

The Prime Minister decided that all necessary action required for the setting up of the Inter-Departmental Committee to settle policy where the claims of the different Services might be in conflict, was to go forward pending further consideration of the C.O.S. Memorandum by the War Cabinet.

C.O.S. (42)  
128th Meeting

On 23rd April the Chiefs of Staff decided that the question of inaugurating the administrative machinery required to implement the decision to organise the U.K. as an advanced base should be discussed with the Administrative Chiefs of Staff, i.e. with the Fourth Sea Lord, Quartermaster-General, and the Air Member for Supply and Organisation.

Air Ministry Views on Procedure for Administrative Planning.

Prior to this meeting there was considerable discussion at the Air Ministry between A.C.A.S.(P) and D.W.O. before the latter briefed A.M.S.O. with their agreed views. Before any administrative plan was produced, an outline operational plan, based on data from operational and administrative planners should be approved by the Combined Chiefs of Staff. Such data should ensure that plans take into account existing commitments. Whatever machinery was set up for planning, the ultimate control of the R.A.F. organisation must be vested in the Planning Directorates of C.A.S. and A.M.S.O.

Three other aspects of the procedure for planning followed:-

- (1) that for the assembly and shipment of the United States troops.
- (2) that for the reception and concentration of this force and its fitting in with our Expeditionary Force.
- (3) The arrangements to enable the combined force to operate before, during, and after the move to the Continent.

Every Ministry concerned should set up a section for planning on these lines and these sections should be so linked up that preparations are co-ordinated between Ministries and Commanders and between the different Services, to ensure that all plans are truly joint plans. The R.A.F. should not be in "the position of being tied like a can on to the Army's tail".

A.M.S.O. Folder  
"Round-up",  
Genesis of the  
Admin. Planning  
Committee (P.A.  
D. Committee)  
Encl. 5, dated  
27.4.42.

Shipping Priorities

Before the Chiefs of Staff had had sufficient time to consider their policy for assigning responsibilities in connection with the operations envisaged so that the requisite machinery could be set up to deal with these matters, the first problems began to arise.

C.O.S. (42) 104(0)  
dated 17.4.42.  
"Priorities of  
Arrivals of  
U.S. Troops in  
the British  
Isles."

A letter from General Chaney's Assistant Chief of Staff asked for guidance in the matter of shipping priority as between certain American formations to embark for the United Kingdom as the first instalments of the U.S. Forces for "Round-up". The units earmarked for movement were:-

- (1) An Armoured Division;
- (2) Certain Heavy Bombardment Groups (U.S.A.A.F.);
- (3) Certain Engineer General Service Regiments and Engineer Aviation Battalions (airfield construction).

General Marshall had been of the opinion that the Aerodrome Construction Units should go first, but another problem then arose from the fact that two regiments of coloured labour troops were involved.

The Chiefs of Staff decided on the 21st April that the priorities should be - first, air units, second, the Armoured Division; third, Airfield Construction Units. They added that they did not favour the use of coloured troops in this country.

IV. ADMINISTRATIVE PLANNING AGENCIES

Combined "Bolero" Committees

As the Marshall Plan had been prepared in Washington the ideas of the planners there had reached a more advanced stage than had those in London. Consequently, the first concrete proposal regarding a body to implement General Marshall's plan came from the American end.

J.S.M.198 to  
British Chiefs  
of Staff d.24.4.42.

A telegram from the Joint Staff Mission at Washington contained a proposed directive on the planning of the operation addressed to a "Bolero" <sup>(1)</sup> Combined Committee", to be formed under the Combined Staff Planners at Washington. Under the directive, this "Bolero" Committee would exercise very comprehensive powers over the planning and control of the operation transferring U.S. Forces to Britain and establishing them therein, while the setting up of a similar committee in London only received the barest mention.

The original Washington proposals regarding the agencies for planning this great movement of troops were not entirely acceptable to the British Chiefs of Staff because they did not take into account the fact that the determining factor in the operation would be the capacity of the United Kingdom to absorb and maintain American Forces. The British view was that a London "Bolero" Committee should be the dominant partner, and consequently the original proposals were amended in accordance with the representations made on behalf of the British Chiefs of Staff by the Joint Staff Mission.

C.O.S(W)163 d.  
27.4.42, to  
J.S.M. Washington

The Combined Chiefs of Staff discussed the directive proposed by the Combined Planning Staff at their 17th Meeting when Field-Marshal Dill, Admiral Little and Air Vice-Marshal Evill attended to represent the British Mission. Apart from the amendments to which the U.S.

(2)

/C.O.S.  
(1) The code word "Bolero" which was later restricted to mean the concentration of U.S. forces for "Round-up" and their movement to and accommodation in the United Kingdom was at first often used to denote "Round-up" itself.  
(2) Paper CPS 26/2D discussed at C.C.S. 17th Meeting, 28th April, 1942.

C.O.S. readily agreed, it was stated that U.S. Army Officers from Operations Plans, Logistics and Planning Divisions would go to London to join General Paget's Staff; other U.S. Army and Navy officers would join C. O. H. Q. and probably a Corps Commander and staff would be sent for duty in connection with "Bolero" and "Round-up".

The amended directive stated that the aim was to implement General Marshall's Plan for -

- (a) an air offensive with the R.A.F. in 1942;
- (b) a major invasion of the Continent in 1943;
- (c) a share of a possible British invasion in 1942.

The Washington "Bolero" Committee was to outline, supervise and co-ordinate all combined aspects of the preparations and operations involved in the movement, reception and maintenance of United States troops going to Britain for participation in "Round-up". They were to prepare a plan to cover:-

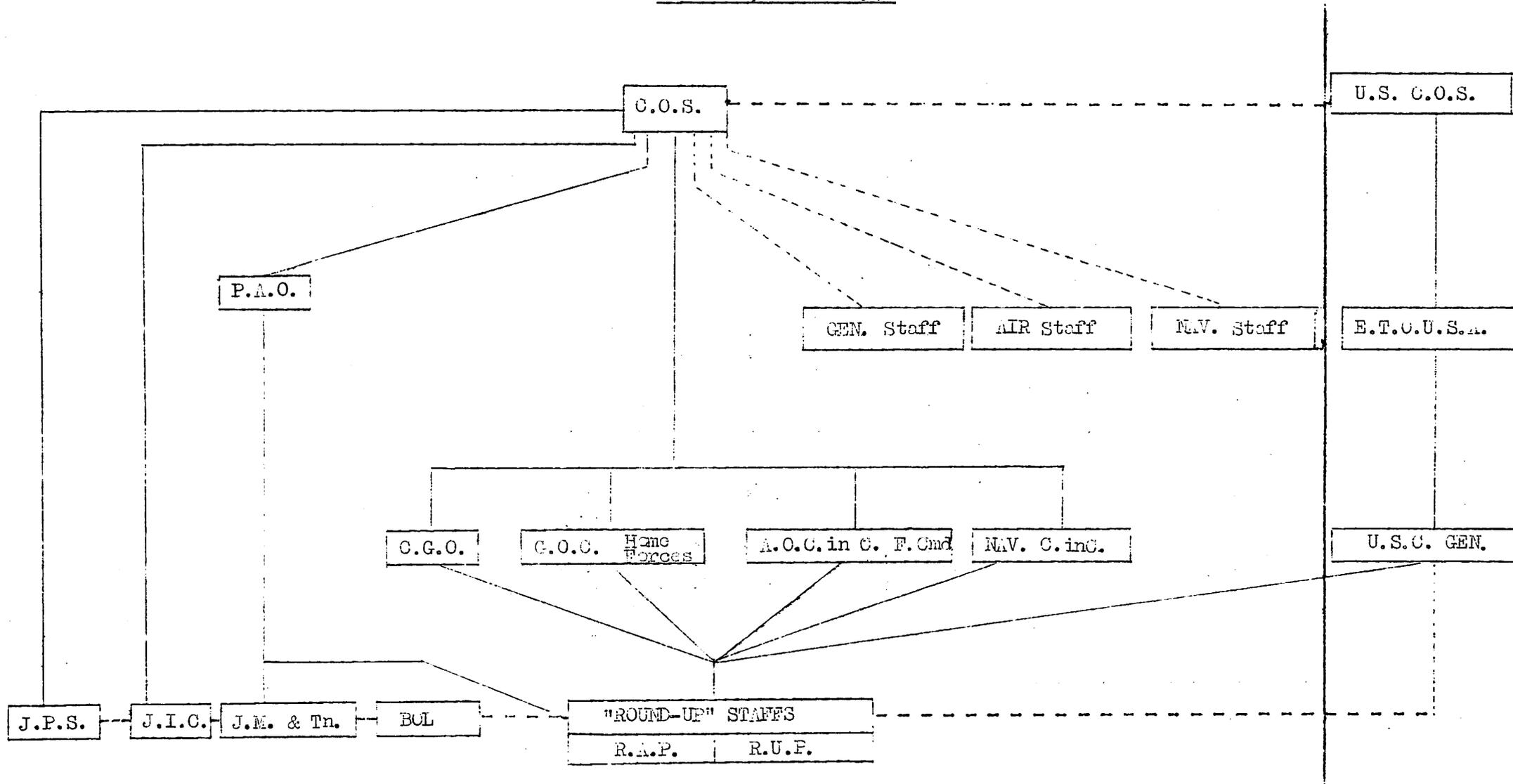
- (i) overall requirements as to troops, equipment and facilities and the dates they were to be made available by the United States and the United Kingdom;
- (ii) allocation between the United States and the United Kingdom of components of the forces and equipment and facilities to be provided;
- (iii) shipping availability and requirements;
- (iv) port facilities, concentration areas and communication systems;
- (v) time schedule of movements of United States troops to the United Kingdom;
- (vi) naval escort of these movements.

The United States Navy and Army and the Joint and Combined Chiefs of Staff in Washington were to furnish information to the "Bolero" Committee (Washington) as required. In the United Kingdom a similar Combined United States - British Planning Agency was to be established and the "Bolero" (Washington) Committee was to deal direct with its British counterpart for purposes of planning and of

/exchanging

"ROUND-UP" - DIAGRAM ILLUSTRATING RELATIONSHIP OF PLANNING

AGENCIES, SUMMER 1942



\_\_\_\_\_ Control  
 - - - - - Consultative

Composition of the Bolero (London) Committee

The following was the membership of the Combined British - U.S. Bolero (London) Committee as originally constituted <sup>(1)</sup> on the 1st May, 1942:

Chairman	- Sir Findlater Stewart
Representative of Q.M.G.	- Maj-Gen. R.M. Wootten
" " Fourth Sea Lord	- Capt. C.C. Hughes Hallett
" " A.M.S.O.	- Air Cdr. Musgrave Whitham
" " C.-in-C. Home Forces	- Maj-Gen. H.M. Gale
" " C.C.O.	- Brig. H.A. Wernher
" " Min. of War Transport	- Mr. R.H. Hill
" " Min. of Home Security	- Mr. T.H. Sheepshanks
" " U.S. Forces	- various
" " Govt. Depts. (U.K.)	- as required
Secretary	- Brig. R. Gurney (C.O.S. Secretariat)

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(1) See also page 127 below.

exchanging information.

J.P(42)445 d.

26.4.42 - Directive  
of Combined Planning  
Staff - Report by  
J.P.S.

Annexe to C.O.S. (42)  
118(0) d.1.5.42.

Clarified as the position had been as a result of the discussions on the American proposals and the British counter-proposals, it was not difficult to settle suitable terms of reference for the Combined "Bolero" (London) Committee, namely, "To prepare plans and make administrative preparations for the reception, accommodation and maintenance of United States forces in the United Kingdom and for the development of the United Kingdom in accordance with the requirements of the "Round-up" Plan. Further paragraphs explained that the "Bolero" Plans would have to be carried out by the Departments concerned, as arranged by co-ordinating sub-committees. The "Bolero" Committee was to be supervised by the Administrative Chiefs of Staff and was to keep in close touch with its opposite number at Washington. As yet, however, these arrangements had not been fully discussed with the Chiefs of Staff Committee in London.

Administrative Chiefs of Staff Committee

The Chiefs of Staff invited the Administrative Chiefs of the three Service Ministries, viz: the Fourth Sea Lord, the Quartermaster-General and the Air Member for Supply and Organisation to attend a Chiefs of Staff meeting for a preliminary discussion on the procedure for the administrative planning for "Round-up". This was the first of three conferences on the subject.

C.O.S. (42)133rd  
Meeting on  
28.4.42.

It was suggested that in view of the vastness of the project the United Kingdom might best be divided into two areas - a "Theatre of Operations", mainly the South and East coastal areas, and a "Base and L. of C." area, to be the remainder of the United Kingdom. In the "Theatre of Operations" it was desirable that the

/"Round-up"

"Round-up" Planning Committee should make the administrative arrangements because this would ensure that they fitted the tactical plans produced by those planners. On the other hand, the problems involved in the development of the United Kingdom as a base for the operations against the Continent involved a series of far wider problems. These could best be settled by an organisation having a wider basis and which would also be in close touch with the Civil Ministries.

The Combined Planning Committee - known as the London "Bolero" Committee to distinguish it from the similar body being set up in Washington - had already been proposed to handle the wider problems connected with the provision of accommodation, aerodromes, additional roads and railways, and of oil fuel that would certainly be required. In the discussion it was therefore agreed that it should be composed not only of representatives of the Service Ministries but also of the other Ministries which would be concerned. It seemed certain that the development of the United Kingdom would be affected both by the plans of the actual invasion and by the arrival of the American forces. The latter, in turn, would be affected by shipping limitations.

Composition of the Committee, therefore, had to take all these factors into account. Close liaison between the various branches of the whole administrative machine to be set up would make all the difference to success or failure. It was therefore suggested that an overall Administrative Planning Committee would be advisable. To avoid the necessity of the C.C.S. and the C.O.S. becoming involved in administrative questions, it was suggested that a Committee composed of the Quartermaster-General, the Fourth Sea Lord and the Air Member for Supply and Organisation should meet again to consider further the

/the

the draft proposals to be drawn up as a result of these discussions.

On the 29th April an informal meeting was held at the War Cabinet Offices, attended by representatives of the Admiralty, War Office, Air Ministry, Home Forces, Combined Operations and by General Ismay and Sir Edward Bridges (Secretary to the Cabinet). The draft proposals from the previous day, embodied in an Aide Memoire by the Secretary, were discussed in detail. It was agreed that in addition to the three Service Ministries, the United States Forces, Combined Operations and Home Forces, the Ministries of War Transport and of Home Security would need representation on the "Bolero" (London) Committee, and further it was suggested that this Committee should be on such a level as to be capable of taking decisions without reference back. The Departments concerned would be responsible for giving effect to the decisions of the "Bolero" Committee, and Sub-Committees would be appointed to handle individual problems. Examples of such Sub-Committees quoted were the Wooten Committee on Accommodation and the Campbell Committee on Shipping.

The meeting endorsed the previous suggestion that the "Bolero" Committee and "Round-up" planners should work in close consultation, referring major points to the Administrative Chiefs of Staff. The draft Aide Memoire had included under the heading "Administrative Planning Organisation" the statement that "plans and preparations for "Super RoundUp" will be under the general direction of the C.C.S. (London) who will delegate the administrative side of the problems to an Administrative Planning Committee composed of the  
/Quartermaster

C. O. S (42) 116 (0)  
d. 30.4.42,  
Annexe "Super  
Round-up".  
Administrative  
Machinery.

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(1) C. O. S. (42) 116 (0) dated 30th April, 1942, Annexe "Super Round-up Administrative Machinery".

Quartermaster-General, the Fourth Sea Lord, and the Air Member for Supply and Organisation, with powers to co-opt representatives of Departments and United States Staff Officers". On this occasion, however, it was not definitely recommended that the Administrative Chiefs of Staff Committee should hold regular sessions, although it was considered essential to have a strengthened Secretariat capable of linking up the work of the "Bolero" Committee with that of the "Round-up" planners.

The first problem for the new organisation would be to establish the labour requirements for "Bolero" and "Round-up". Certain Civil Departments would be intimately concerned with this as with other aspects of "Bolero" planning and yet could not be directly represented without making the "Bolero" Committee too cumbersome to work efficiently. The only Civil Departments with direct representation were the Ministries of War Transport and Home Security. Obviously the Ministries of Agriculture, Labour and Supply, as well as others, would be affected by the turning of this country into a huge armed camp. It was therefore proposed that Sir Findlater Stewart should be especially charged with the responsibility of keeping such Civil Departments in touch with any implications of "Bolero" as were their direct concern. Finally, both "Bolero" and "Round-up" Committees were invited to define their spheres and to make recommendations as to their terms of reference within the framework of these discussions.

At a further meeting the Administrative Chiefs gave final shape to their proposals for the administrative machinery that would be required to receive and maintain the United States forces and to move and maintain the combined forces when operations had commenced. A flaw in the arrangements was pointed out by Sir John Cunningham and confirmed by

/Sir Christopher

Sir Christopher Courtney, in that while the Admiralty and Air Ministry had a share in the responsibility for the "Bolero" arrangements they had only indirect representation<sup>(1)</sup> on the "Round-up" organisation.

The latter organisation was not sufficiently representative to be able to deal with all administrative questions that would arise from the movement of the combined British-United States forces when the invasion was commenced. To remedy this matter it was arranged that the Admiralty and Air Ministry representatives on the "Bolero" Committee should also serve on the "Round-up" Planning Committee and that the same Secretariat should serve both Committees.

The composition and terms of reference of the "Bolero" (London) Committee were confirmed.

Sir Findlater Stewart was appointed its Chairman and it was arranged for it to start work at Norfolk House on the 4th May, 1942.

Panel of Ministers.

It was thought that a number of problems of high policy would almost certainly arise out of this vast undertaking, urgent joint problems which should be solved at a ministerial level without necessarily being referred to the Cabinet. The Conference came to the conclusion that a small Panel of Ministers could best deal with such matters and decided to consult Sir Edward Bridges (Secretary of the Cabinet) on its composition. The latter replied on the 2nd May that the Panel should include the two Secretaries of State for War and for Air, the Minister of Home Security and, when necessary, the First Sea Lord and the Minister of War Transport, with the Lord President of the Council as its Chairman. Sir Edward Bridges

/wrote

wrote to Sir Archibald Sinclair on the 2nd May informing him that the Prime Minister decided that such a board of Ministers was to be nominated for this purpose, and inviting him to serve as one of the Members of the Panel. The Secretary of State for Air accepted two days later. There appears to have been no subsequent reference to this Panel, nor does it ever seem to have been necessary to call it together.

The probable explanation for this would seem to be that the Principal Administrative Officers Committee began to hold weekly meetings after the 9th May, 1942, and decided to co-opt Sir Findlater Stewart, Chairman of the "Bolero" Committee, so that the interests of Civil Departments might not be overlooked. In the course of the P.A.O. meetings they were able to dispose of a vast number of inter-service problems as well as of many with civil implications which Sir Findlater Stewart was empowered to take up with the Ministries concerned. As a result, ministerial arbitration seems to have been successfully avoided.

The Principal Administrative Officers Committee

The first meeting of the Principal Administrative Officers Committee was held at Norfolk House with Sir Walter K. Venning, (Quartermaster-General), in the Chair and Air Chief Marshal Sir Christopher Courtney (Air Member for Supply and Organisation), Vice-Admiral Sir John Cunningham (4th Sea Lord) and Sir Findlater Stewart (Home Forces) as the other permanent members. The main reason for the meeting was to consider generally the future procedure for administrative planning. In view of the desire expressed by the Prime Minister to receive periodical

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C.S.A. (42)  
1st Meeting,  
9.5.42.

reports on Operation "Bolero", it was decided to invite the "Bolero" Committee to provide progress reports every week. The appointment of an American representative to the Committee was deferred.

They discussed with Major-General H.M. Gale (Home Forces) the question of storage and accommodation requirements that would be needed in the South of England for "Bolero" and "Round-up". The 4th Sea Lord proposed, and the Committee approved, the broad principle of a ban on further reservations of storage or accommodation facilities except for "Bolero" and "Round-up", and instructed the "Bolero" Committee to give effect to this decision.

Principal Administrative Officers Committee -

Terms of Reference

In co-ordinating the administrative planning for "Bolero" and "Round-up" the Administrative Chiefs of Staff had to take into account the broader aspects of the war in the same way as did the Chiefs of Staff and in the same way as they did individually by virtue of their positions as the respective Heads of the "Q" Branches of the three Services. The exact Terms of Reference of the Committee had not been considered until the 22nd May, when the Quartermaster-General wrote to the Secretary of the Chiefs of Staff Committee asking him to take up the question.

The only existing Terms of Reference were those in G.O.S.(42)118(0) where it was stated that the "Bolero" Committee (London) would not act under the joint authority of the Administrative Chiefs of Staff

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to whom all major matters of policy requiring decision or arbitration would be referred. Since then the Chiefs of Staff had referred the question of the Joint Movement and Transportation Committee and the weekly progress reports on "Bolero" to the Principal Administrative Officers.

Brigadier Hollis passed on the Quartermaster-General's letter to Sir Edward Bridges, explaining that the point had arisen primarily out of Mr. Churchill's request for weekly "Bolero" progress reports. Apparently the Secretary of State for War considered that these progress reports should go through the Chiefs of Staff organisation of the Ministry of Defence (of which the Principal Administrative Officers and "Bolero" Committees were a part) to whom the Prime Minister had referred the matter. (1)

At their 3rd Meeting the Principal Administrative Officers considered, and recommended to the Chiefs of Staff, Terms of Reference drafted by the Quartermaster-General. These were approved two days later by the Chiefs of Staff. They were amended in accordance with suggestions by Sir Edwards Bridges and were then approved by the Prime Minister. They stated that the Principal Administrative Officers Committee was to:-

C.O.S. (42) 163rd Meeting, d. 28.5.42.

C.O.S. (42) 311 d. 17.6.42.

- (a) Consist of the Quartermaster-General, the 4th Sea Lord, the Air Member for Supply and Organisation, and Sir Findlater Stewart.
- (b) In appropriate cases advise the Chiefs of Staff Committee on the administrative aspects of operational and strategic questions.
- (c) Supervise generally the work of the "Bolero" Committee.
- (d) Constitute a body by which administrative questions of common interest to the four Defence Services could conveniently be discussed, Sir Findlater Stewart being responsible for keeping in touch with other Civil Departments as necessary.

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(1) At the 146th Meeting of the C.O.S., 11th May, 1942.

- (e) On strategical matters, the Principal Administrative Officers Committee would look to the Chiefs of Staff for guidance. On matters of policy in other spheres they would seek ministerial authority as might be appropriate in the particular case.

Joint Movement and Transportation Committee

C.S.A. (42) 1st  
Meeting, 9.5.42

C.O.S. (42) 234,  
d. 24.4.42.

At the first meeting of the Principal Administrative Officers Committee they considered a Memorandum referred to them by the Chiefs of Staff Committee and signed by the C.I.G.S. advocating the setting up of a Joint Movement and Transportation Committee to advise the Chiefs of Staff or Directors of Plans on movement and transportation projects, especially those of a long term nature. Such a Committee was already functioning in Washington and though it had done extremely valuable work it had no opposite number in London to which it could refer. Sir Cyril Hurcomb, Ministry of War Transport, who had been invited to attend to discuss this matter was not in favour of setting up the suggested Committee to deal with those matters because there were already several committees dealing with shipping questions.

This had been the view expressed in D.W.O.'s Brief to C.A.S.

A.M.S.O. Folder -  
Joint Movement &  
Transportation  
Committee  
Encl. 2 & 3  
d. 27.4.42  
and Encl. 4  
d. 25.4.42.

on the subject, written a fortnight earlier. In another Minute he also expressed the suspicion that it contained an attempt to bring air transport under movement control of the War Office. D.D. Movements, however, advised C.A.S. that the Committee would be welcomed because, being a Joint Committee, it would give the R.A.F. Director of Movements a voice in the provision of shipping and of locomotives and rolling stock used on Joint Lines of Communication. The Committee in the United States, he thought, was already fulfilling a useful purpose.

It was evident; therefore, that as opinions were so divided on the merits of the proposed new organisation its suggested Terms of Reference needed clarification in relation to existing committees. After discussion, the Principal Administrative Officer Committee deferred

a decision on the matter until this clarification had been done by the War Office.

C.S.A. (42) 2nd Meeting 15.5.42

At their next Meeting they considered the revised Terms of Reference of the Joint Movement and Transportation Committee proposed by the War Office, and decided to recommend the establishment of the Committee to the Chiefs of Staff. It was to be on the same level as the Joint Planning Staff but under the P.A.Os. The matters held to be within its province were:-

- (a) Movement and transportation of shipping, ports and strategic commitments.
- (b) Potential requirements of shipping, ports and railway facilities for future operations.
- (c) Co-ordinating the action of the Services with the Civil Ministries on the above.
- (d) Consultation with the Combined Military Transportation Committee, Washington.

This met the wishes of the General Staff, and the Chiefs of Staff Committee approved the establishment on the 23rd May 1942. It should be noticed that although the primary purpose for the origin of this Committee was to make arrangements for the invasion of Europe, its scope within the above Terms of Reference was very much wider and the Committee did, in fact, deal with world wide strategical matters from the movement and transportation point of view.

"Round-up" Planners - R.A.F. Special Planning Staff

C.O.S. (42) 21st Meeting (0).

It will be recollected that the Chiefs of Staff had charged the Commander-in-Chief, Home Forces, in association with the Air Officer Commanding-in-Chief, Fighter Command, and the Chief of Combined Operations with the responsibility for planning Operation "Super Round-up", in full consultation with the Naval Staff. Discussions had been proceeding between the Air Officer Commanding-in-Chief, Fighter Command, and the Air Ministry at the beginning of May with a view to evolving the most suitable agency for discharging

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A.C.A.S. (P)  
Folder 335/A,  
Minute by AVM.  
Slessor d.  
15.5.42.

the responsibilities of the R.A.F. in this matter, and as a result A.C.A.S. (P) wrote to A.M.P. that the Chief of Air Staff had decided to set up a staff for this purpose at once.

"As you know, the C.-in-C., Fighter Command, is the Air Force Commander designate for this operation: it is, however, clearly impossible for Fighter Command staff to do the vast amount of operational and administrative planning involved, in addition to their ordinary work of fighting the day to day war....." "The personnel for this Headquarters will be posted to the Air Ministry for special duty with A.C.A.S. (P)".

This staff began work at King Charles Street on the 18th May, and on the following day A.C.A.S. (P) wrote a minute with a wide circulation naming Air Vice-Marshal C.H.K. Edmonds as the Head of the Staff, with Air Commodore V.E. Groom in charge of Air Plans and Air Commodore A. MacGregor as Chief of Admin. Plans.

The C.A.S. had brought this staff into existence because it was manifestly impossible to expect those engaged in a very active war to be able to devote the proper attention to planning another in a very different set of conditions. It would also be essential for the staff discharging the latter purpose to be in constant touch with those who could give them guidance at once more authoritative and more valid than would be possible if they were located at Command Headquarters. Physical proximity to other Planning Headquarters, notably those of the Army and of the United States Forces, would be of very great advantage, but the fact that the staff had two masters - the Air Ministry and the Force Commander led to a great deal of confusion which did not disappear when, after opposition from P.U.S. apparently on financial grounds, the Special Planning Staff were established at the Air Ministry from the 11th August 1942 until the 1st June, 1943.

File ARAF/MS. 3,  
Encl. 10A, d.  
3.6.42.

The "Round-up" Administrative Planning Staff

The evolution of a suitable agency to direct and co-ordinate administrative arrangements so that the administrative plan for "Round-up" hammered out by the Combined Commanders Staff could be implemented in the period of time available, did not take place so quickly or so smoothly. The need for co-ordinating the detailed arrangements made by all the Service Departments and by the different Staffs of the Force Commanders with each other and with commitments already existing was discussed at the first meeting of the Principal Administrative Officers Committee. A Paper from the C.-in-C.,

C.S.A. (42) 1st Meeting 9.5.42.

C.S.A. (42) 2, "Joint Home Forces, Admin. Planning Org - Memorandum by C.-in-C., Home Forces

suggesting that administrative planners from the three Service Ministries should work together with members of the staffs of the "Round-up" Planners as a Joint Administrative Planning Staff was considered. Only in this way could the needs of the Cross-Channel operation be reconciled with all the other demands made upon Service resources. The scheme envisaged a Central Co-ordinating Committee responsible for the oversight of a large number of Sections, each of which would consist of Staff Officers interested in one specialised aspect of planning. After discussion, the Principal Administrative Officers Committee approved the project and steps were taken to set up the organisation to be called the "Round-up" Administrative Planning Staff."

As might have been expected, both the Staff and the Sections were dominated by the Army, but the Admiralty and the Air Ministry, as well as the Force Commanders and the United States Forces, all had representation. It was thus a very large Committee. Major-General H.M. Gale, Home Forces, was appointed Chairman of the Staff; D.D.W.O. (2) (Group Captain Tyzack) represented A.M.S.O., and Air Vice-Marshal Edmonds with Wing Commander Shapcott (Special Planning Staff) represented the C.-in-C., Fighter Command.

/At

At the 4th Meeting of the P.A.O. Committee, the Chairman of the "Round-up" Administrative Planning Staff (short title R.A.P.), Major-General Gale, was asked to report progress so that the Principal Administrative Officers would be able to

C.S.A. (42) 5(0) supervise their work. This report was considered at the 6th  
d. 7.6.42, Meeting of the P.A.O. Committee (1) for which purpose Major-  
"R.A.P. Progress Report No. 1." General Gale had been asked to attend. The report contained

some information about the composition of the R.A.P. Staff and of its future procedure. The Staff felt that in order to begin work on the right lines it would be necessary first to define carefully which phases of the administrative planning would be the responsibility of the Service Departments and which the responsibility of the Force Commanders. The need for United States representatives on the Staff was also keenly felt, and finally it had been realised that the existing R.A.P. Staff was too cumbersome to attend to every problem. This would be remedied by reducing the size of the main committee and by organising the separate Sections each dealing with one aspect of the planning, such as movement, supply, petrol, etc. mentioned in the original proposals.

The R.A.P. Staff also proposed to compile a "Combined Appreciation of Administrative Problems" arising during the planning of "Round-up". This would indicate which Section was to take action after the special administrative problems had been defined and the necessary requirements had been indicated. It was thus hoped that the compilation of a Combined Appreciation would enable the R.A.P. Staff to carry out its function of co-ordinating the detailed administrative planning that was being done simultaneously in the Service Departments and at the Force Commanders Headquarters.

The Progress Report showed, too, that Sections had already begun to function and preparatory work had already started on assessing port facilities and landing points

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(hards), on setting up a movement organisation, and on equipment, shipping, spares, ammunition and petrol requirements.

Major-General Gale elaborated on a number of these points in the Report first, and then dealt with an important point of organisation and policy raised by Air Commodore Musgrave Whitham, D.W.O., deputising for A.M.S.O. D.W.O. said that the R.A.P. had two elements, the Service Ministry element and the Force Commander element, each of which had within itself a joint planning responsibility. But when they met together, the combined function could only be one of co-ordination.

D.W.O. had already drawn attention to the lack of a clear distinction between the function of co-ordination and that of planning the actual operation, in a Brief to A.M.S.O. dated the 13th June, 1942:-

P.A.O. Minutes  
of Meetings  
C.S.A. (42) 6th  
Meeting d.  
16.6.42 -D.W.O's  
Brief attached to  
A.M.S.O's copy.

"I would like to draw your attention to the growing tendency to treat the R.A.P. Staff as a "Combined Staff" whose function it is to plan in detail the "Round-up" operation. I suggest that this is entirely contrary to the original intention of the Principal Administrative Officers when they approved the setting-up of the R.A.P. Staff. It was surely intended as a clearing house and co-ordinating machinery for dealing with problems of policy arising out of planning "Round-up" and as a link between the Staffs involved in "Round-up" and the "Bolero" machinery. The actual planning of "Round-up" must be done by the Planning Staffs of the Force Commanders..... I suggest "Committee" describes the functions of this body better than the word "Staff"..... It seems most desirable that there should be a clear understanding by all concerned of the difference between -

- (1) the Inter-Service Co-ordinating Committee for the higher policy of "Round-up";
- (2) the Staff or combination of Staffs which will produce and implement the detailed plan under their respective Commanders."

/At

At the Meeting on the 1st June D.W.O., as the Air Ministry representative, put forward this view with some force and as a result the Principal Administrative Officers decided that the R.A.P. Staff should revise its composition and work with very definite Terms of Reference. The latter were requested to submit a draft for consideration at the next Meeting of the P.A.O.

The demand for Terms of Reference led to a very thorough discussion and went a long way towards making the R.A.P. Staff (and others) clear their minds about their task. The new Terms defined clearly the functions of the "Staff" as co-ordination only and curbed the tendency for it to turn into an executive body for planning "Round-up". In fact, a better title in the first place would have been "Round-up Co-ordinating Committee." The Principal Administrative Officers therefore approved the amended wording at their 7th Meeting on the 22nd June. As finally approved, the Terms of Reference for the R.A.P. Staff were -

"To co-ordinate the detailed administrative arrangements which must be made by the Service Departments and Staffs of the Commanders in order to implement the administrative plan drawn up by the Staff of the Combined Commanders to enable their plan for offensive operations on the Continent of Europe to be carried out."

At the same meeting the proposed revision of the composition and membership of the R.A.P. was approved.

Relationship with Co-ordination of Ministries and Services Facilities Committee

In May, 1940 Brigadier Sir Harold Wernher was appointed by the Prime Minister to co-ordinate the provision of Ministries and Service Facilities with particular reference to Cross-Channel operations. His directive said:-

/Your

"Your responsibility will embrace the whole problem of preparing facilities for the launching of the assault and of maintaining supplies and reinforcements during the earlier phase of a major combined operation against Northern France. The phase of the operation with which you are chiefly to be concerned is that between the time that the assault force is about to embark in England and the time that sufficient French ports have been captured and put into operation for the supply problem to proceed on normal lines."

He was to devote particular attention to:-

- (a) Road and rail systems in Southern England in relation to the embarkation problem.
- (b) Loading and other harbour facilities for shipping taking part in the operation.
- (c) Direct embarkation of all forms of military vehicles into landing craft, etc., on the South Coast.
- (d) Assembly and modification of shipping for the Cross-Channel journey.
- (e) Ships' discharging facilities for stores and M.T. on the French coast.
- (f) The raising and training of skilled labour to fulfil the foregoing tasks under active service conditions.
- (g) Questions relating to priority requirements.

In discussing the relationship of the "Round-up" Administrative Planning Staff to other bodies, it was decided that the position of the Co-ordinator of Ministries and Services Facilities in relation to other planning bodies might have to be defined more exactly. This had first been brought up at the 5th Meeting of the Principal Administrative Officers Committee by the 4th Sea Lord who said that he was receiving un-co-ordinated demands for equipment without any certainty that these requirements were more urgent than important requirements for "Round-up". Sir Findlater Stewart thought that the C.M. and S.F.

/Committee

Committee should be invited to associate itself with the R.A.P. Staff so that a single co-ordinated Progress Report might come before the Principal Administrative Officers. The Air Member for Supply and Organisation and the 4th Sea Lord both thought that such a co-ordinated report, though essential, must be supplemented by sufficient advance information about future operations to enable individual Principal Administrative Officers to forecast future requirements and to set them against existing resources. That was the only way to allot stores in their proper priority, and only in that way could the Chiefs of Staff be advised when all operational demands could not be met. Existing arrangements were not satisfactory and certain demands might receive priority at the expense of equally important ones. The conclusion reached was that Sir Findlater Stewart should take up the matter of a Progress Report with the C.M. and S.F. Committee.

Sir Findlater Stewart reported on the 16th June that he had been able to make a satisfactory arrangement with the Chairman of the C.M. and S.F. Committee regarding the submission of Progress Reports in conjunction with the R.A.P. Staff. The 4th Sea Lord again stressed the necessity of obtaining advance information of administrative requirements. Estimates of future requirements were essential to the economical use of the limited resources available. Sir Findlater Stewart was asked to enlighten the C.M. and S.F. Committee on this point. It was agreed that the correct channel for passing such information was from the Staff concerned to the Staff of the Service Ministries. As regards information on operational planning it was decided that this was a domestic problem for each Service Ministry to solve itself and was not a matter which should be dealt with by the Principal Administrative Officers Committee collectively.

C.S.A(42)7(0) "The  
C.M. & S.F.  
Committee  
Periodical Report  
to the P.A.O.  
Ctte.  
C.S.A.(42)7th  
Meeting, 22.6.42

The first C.M. and S.F. Committee Progress Report was considered by the Principal Administrative Officers on the 22nd June, 1942. Without the necessary information as to future intentions its value was limited and the 4th Sea Lord intimated that he would take this matter up with the C.C.O., at whose Headquarters the C.M. and S.F. Committee was functioning.

Smooth co-operation was finally secured by the appointment of Sir Harold Wernher as the Convenor of R.A.P. Sections WXY and Z which covered the ground of C.M. and S.F.'s former responsibilities. As a result reconnaissance and construction work upon embarkation hards, ports, roads, railways and port approaches, and on a multitude of allied activities proceeded under the direction of Sir Harold and the R.A.P. staff throughout the remaining months of 1942.

#### Summary

By the end of June, that is about two months after General Marshall's Plan had been approved in principle and the responsibilities of the Force Commanders who would be preparing the various parts of the scheme had been indicated by the Chiefs of Staff, the main framework for the administrative planning had been shaped.

It had been recognised at the outset that the preparation of a complete Administrative Plan for "Round-up" would have to wait upon the drawing up of an Outline Operational Plan. Long-term arrangements could continue in so far as they did not depend upon any particular Operational Plan, but the bulk of the administrative planning would depend mainly upon the size and composition of the forces and the areas in which they were to be employed.

Responsible to the Chiefs of Staff for the adequacy

of all administrative arrangements for both aspects of the Marshall Plan, the creation of the United Kingdom Base and the invasion of the Continent, was the Principal Administrative Officers Committee, which held its first meeting on the 9th May. It represented the three British Services, together with one member to link up with all the Civil Departments affected by the requirements of the Marshall Plan. The members decided against the immediate co-opting of an American representative to their Committee. The other main administrative planning bodies responsible to the Principal Administrative Officers were designed to work as Joint (and usually Combined) Committees to determine Inter-Service (and Inter-Allied) administrative policy and action.

The transfer of American forces to this country and all the administrative problems connected with their reception, accommodation and maintenance, was a part of the Marshall Plan which had to be proceeded with at once if the forces envisaged were to be ready in the United Kingdom by the target date. Consequently, immediate steps were taken in April to implement their part of the Plan by setting up parallel "Combined Bolero Committees" in Washington and London respectively to organise the movement. The London "Bolero" Committee was made responsible to the Principal Administrative Officers, and soon began to furnish regular Progress Reports of the Principal Administrative Officers Committee before being forwarded to the Prime Minister.

With such great movements of men and materials in prospect it seemed likely that a Joint Committee to advise the Principal Administrative Officers and the Chiefs of Staff on movement and transportation problems - mainly of a long term nature - arising out of strategic decisions would become necessary. In consequence, the Principal Administrative Officers set up a Joint Movement and Transportation Committee on the same level as the

/"Bolero"

"Bolero" Committee and similar in policy and purpose to the existing committee at Washington.

As the "Round-up" Plans produced from Norfolk House would have such wide repercussions upon other projects, and as they in their turn would be vitally affected by the general course of the war, it was clearly necessary for the Principal Administrative Officers to be kept in constant touch with the administrative aspects of this planning for "Round-up". A co-ordinating Committee, known as the "Round-up Administrative Planning Staff" was therefore set up to bring together the administrative staffs of the Force Commanders and the Service Ministries. Like the "Bolero" Committee it also had strong American representation and its staff both used the Secretariat of the Principal Administrative Officers Committee and rendered regular Progress Reports to that Committee.

In view of the fact that these Progress Reports coming before the Principal Administrative Officers Committee did not, in themselves, give it a complete picture upon which the long-term allocation of reserves could be based, the Co-ordinator of Ministries and Services Facilities (at C.O. H.Q.) was also invited to associate his Committee with the R.A.P. Staff for the purpose of rendering Progress Reports to the Principal Administrative Officers Committee.

The Air Ministry was generally in full agreement with the policy of setting up Joint and Combined co-ordinating machinery and had a fair share in the membership of these bodies. To the R.A.F., the policy had the advantage of ensuring that Air Force officers would, for the first time, have a voice in arranging those matters which were of joint concern to the Services. Frequently in the past, when the R.A.F. share in a project was a relatively small one, there had been a tendency to ignore

it altogether. The setting up of Joint Planning Committees did sometimes have the effect of slowing up the settlement of business, but it did mean that the R.A.F. had the opportunity, heretofore denied them, of considering many matters of common interest so that blunders of the kind which had been made too often before could, in future, be avoided.

V. STRATEGY IN THE EUROPEAN THEATRE  
APRIL TO AUGUST 1942.

Combined Commanders Advise against Invasion in 1942

It has already been stated that on the 18th April the Chiefs of Staff outlined the responsibilities of the Commanders selected to plan Cross-Channel operations. On the following day Sir Sholto Douglas submitted his "Report on the Air Offensive over Western Europe" called for by the Chiefs of Staff when they were examining the possibility of helping Russia by air action alone just before they considered the Marshall Plan. The A.O.C.-in-C., Fighter Command, had been asked for an appreciation on the air action that would be necessary to weaken the German Air Force. He reported that continuous and intensified operations should be undertaken in the West to force the G.A.F. to strengthen this front at the expense of the Russian front. A larger Spitfire allotment would have to be made to Fighter Command, and a reserve of at least 480 aircraft should be built up so that operations could be conducted by Bostons, Blenheims and Mosquitoes and by heavy bombers escorted by fighters. If a wastage rate of 200 fighters a month could be imposed on the German Air Force this would secure a rapid decline in its power: if a further 50 a month could be destroyed then withdrawals would have to be made from the Eastern front. These proposals received general approval from the Chiefs of Staff on the 21st April.

C.O.S.(42)106(0)  
d/d. 19.4.42.  
C.O.S.(42)  
110th Meeting  
(=C.O.S.(42)  
21st Meeting (0))  
on 8.4.42.

C.O.S.(42)126th  
Meeting  
(=C.O.S.(42)26th  
Meeting (0))  
on 21.4.42.  
C.O.S.(42)99(0)  
d. 14.4.42.

The Combined Commanders, for their part, reported to the Chiefs of Staff that, excluding air action alone, a series of medium-sized raids was the only practical solution to the problem of helping Russia by operations in the West if Russia was hard pressed during the summer, and recommended that the Chiefs of Staff endorse a policy of raiding. They summarised all the plans that had been made for inflicting damage on the Germans by Cross-Channel operations, showing how impracticable all such plans had

/been

been in the absence of any break in German morale. They pointed out that the Chiefs of Staff had agreed with their conclusions -

- (1) that a permanent occupation of a bridgehead in the "advantageous area" of fighter cover was not feasible in 1942 unless German morale deteriorated;
- (2) that an operation outside the "advantageous area" was not a practical military operation.

In spite of this discouraging Report the Chiefs of Staff decided to examine the question of a bridgehead operation once again when General Marshall in his Plan expressed himself so strongly in its favour. Mr. Hopkins also gave the Defence Committee to understand on the 14th April that the President was anxious to help Russia by staging some operation in Western Europe in 1942. Con-

D.O.(42)10th Meeting.

C.O.S.(42)121st Meeting.

sequently, Vice-Admiral Sir B. Ramsay, Lieut.-General E.C.A. Schreiber and Air Vice-Marshal T. Leigh-Mallory were appointed as Force Commanders under the C.-in-C., Home Forces, the A.O.C.-in-C., Fighter Command, and the C.C.O., and were instructed to examine the "Sledgehammer" plan at C.O. H.Q. on the 23rd April. In a little over a week the three Commanders reported that "Sledgehammer" was "not a sound operation of war" and should only be undertaken if "forced on us for political reasons".

#### Visit of M. Molotov to London and Washington

So far as an invasion in the West in 1942 was concerned, this was its death knell. M. Molotov visited London three weeks later, and in an interview with the Prime Minister on the 22nd May, pressed Mr. Churchill to undertake a Second Front large enough to engage 40 German Divisions and their corresponding Air Forces in the West. Mr. Churchill outlined the Anglo-American strategy and described the plans and contribution that we had made, emphasising that bitter experience had shown that landing in the teeth of enemy air opposition was not a sound military proposition. It was therefore

W.P.(42)219

essential for us, first to bring on air battles and destroy the enemy's air power. We could then choose our points of landing. He promised that we would invade the Continent as soon as it was practicable, but took care at the same time to make it clear to M. Molotov that it would not help Russia if we undertook a sacrifice operation doomed to failure from the first.

After his visit to Britain M. Molotov went to America and saw the President. As a result, the British Prime Minister and Chiefs of Staff had to go to considerable lengths to examine their reasons for deciding against undertaking an invasion in 1942 to convince the United States that any such invasion would be an unjustified sacrifice. Facts were assembled to show that the problem of maintaining any force large enough to secure a bridge-head (variously estimated as from 6 to 10 Divisions) was still unsolved: such a force could not be landed quickly enough nor could it be maintained properly in the area where we could provide fighter protection. There were insufficient landing craft for even a small operation. As there were no major ports in this area (Pas de Calais) the force would have to be maintained over open beaches. An unsuccessful attempt would be accompanied by unthinkable consequences to the Patriot Forces in France who would rise in our aid.

Prime Minister Bans any Sacrifice "Second Front"

Although planning for a small-scale invasion did not completely finish at this stage and considerable discussions regarding the possibility of substituting operations in Norway or in the Paris area took place, the matter was settled so far as the British Chiefs of Staff were concerned when the War Cabinet agreed to the principles laid down by the Prime Minister on 11th June -

C.O.S.(42) 46th  
Meeting (O),  
Staff Conference  
on 27.5.46.

W.M.(42) 73rd  
Meeting d.11.6.42  
Conclusions -  
Confidential  
Annexe.

- (1) No major landing was to be carried out on the Continent unless the forces were expected to remain there.
- (2) Plans and preparations for "Sledgehammer" were to be pressed forward with vigour, but the operation was only to be launched if there was a good prospect of success.

In a week's time the Prime Minister, accompanied by the Chief of the Imperial General Staff and General Ismay, went to Washington to discuss strategy with the President. Only a few days earlier, Lord Louis Mountbatten had explained in detail to the President the plans and preparations that were being made for Cross-Channel operations, and Mr. Roosevelt had once again emphasised the importance of relieving the pressure on Russia by operations in the West.

The British representatives expressed the point of view that we were unable to launch an assault on the Continent with any hope of success, and appear to have induced the Americans to accept the fact that it might be better to undertake an operation in the Western Mediterranean in view of their anxiety that American troops should go into action in the West in 1942. Who actually suggested that the North African operation be considered as a possibility for 1942 is not clear from the C.C.S. Papers, but the British returned from Washington with the knowledge that "Gymnast/Torch" might be substituted for "Sledgehammer". They insisted, of course, that preparations for "Round-up" must go forward and returned to find that the Outline Plan had just been produced by the Combined Commanders.

For the time being, all efforts were to be concentrated on "Bolero" because General Marshall insisted that if an invasion could be launched in the Autumn then we must be able to take advantage of such a situation. In view of this, although the Chiefs of Staff only regarded the Outline Plan for "Round-up" as one of several possible Plans for 1943, they decided that it was to be taken as a basis for

/administrative

C.C.S. 27th &  
28th Meetings  
on the 19th &  
20th June 1942.

C.C.S. 83/1 d.  
24.6.42,  
Offensive  
Operations  
1942 & 1943.

C.O.S.(42)  
193rd Meeting  
(=C.O.S.(42)  
61st Meeting  
(O) on  
30.6.42)

the project at that juncture. Their present instructions were to mount "Sledgehammer" but before they issued the necessary orders they wished the War Cabinet to be aware of the implications. The invitation to the Cabinet to cancel the operation was obvious. On the following day they invited the Force Commanders for "Sledgehammer" and "Round-up" to consult with General Eisenhower, the newly-appointed Commanding General of Etousa, in the preparation of all invasion plans, and asked for an Outline Plan of "Sledgehammer" to be prepared for their approval. In anticipation of the cancellation of "Sledgehammer" the Chief of Combined Operations was invited to examine a possible use for the "Sledgehammer" force then being mobilised.

Further discussion only confirmed that no bridgehead operation was possible in 1942, and the Prime Minister was finally constrained to send a telegram to that effect to the President. He set out at length all the evils that would follow the launching of a premature effort in 1942. "No responsible British General, Admiral or Air Marshal is prepared to recommend "Sledgehammer" as a desirable or even a practical operation". The landing craft and troops from the U.S.A. had not materialised: autumn conditions would be unsuitable for the operation: the interruption to training, the postponement of "Round-up" and the sacrifice of imports, were all unacceptable. "Premature action in 1942 while probably ending in disaster would decisively injure prospects of a well organised large-scale action in 1945". The telegram then went on to urge the advantages of the North African operation already discussed at Washington three weeks earlier. This "is the best chance for effecting relief to the Russian front in 1942.....It is your commanding idea. Here is the true Second Front of 1942....."

Prime Minister's  
personal telegram

Serial No.

T967/2

d. 8.7.42.

/Planning

administrative planning and preparations for the next ten months. Certain points, such as the technique for the assault and the maintenance of forces across open beaches with particular reference to their requirements in petrol, should however be worked out in the greatest possible detail.

In connection with the Prime Minister's two principles stated on the 11th June, reports were called for by the Chiefs of Staff Committee on the various implications, mainly administrative, of mounting "Sledgehammer" if, in spite of the Prime Minister's objections, political pressure made it unavoidable.

C.O.S.(42)192(0) The Ministry of War Transport reported that even to mount the operation - for which two months' notice would be required to take up the necessary shipping - would result in a gross loss of 950,000 tons of imports in one year and this would also throw a grievous burden on our overloaded inland transport system.

C.O.S.(42)194(0) The Chief of Combined Operations reported that the large-scale invasion ("Round-up") would have to be postponed if training was interrupted during the best three months of the year. The C.-in-C., Home Forces reported that the military advantages of mounting the operation would be heavily outweighed by the disadvantages.

C.O.S.(42)  
193(0)

All three Papers were considered at the same Meeting by the Chiefs of Staff Committee, and in view of the principles laid down by the Prime Minister that no landing was to be made in France unless we were going to stay and unless the Germans were demoralised by another failure in Russia, it was agreed that the operation was most unlikely to take place.

C.O.S.(42)195(0) They embodied all the considerations advanced against d.2.7.42, "Future Operations - mounting an invasion operation in 1942 in a Memorandum to the Chiefs of Staff to the War Cabinet saying quite clearly that they were against the War Cabinet.

/the

C.O.S.(42)  
209th Meeting  
(=C.O.S.(42)  
74th Meeting(0))  
on 17.7.42.

Planning for "Sledgehammer" came to an immediate standstill until the Chief of the Imperial General Staff suggested that an Outline Plan for "Sledgehammer" should be submitted to the Chiefs of Staff Committee for approval and then kept in a state that it could be implemented at about two months' notice in the event of a break in German morale.

#### U.S. Reactions to British Decisions

Staff Conference  
on 22.7.42.

This British decision created the utmost consternation in the United States, and Mr. Hopkins, General Marshall and Admiral King hurried across the Atlantic to consult with the British in order to persuade the latter to reconsider the question. After three meetings with the British Chiefs of Staff they attended a final Conference at No.10 Downing Street before reporting to the President.

Mr. Churchill again referred to the ugly strategic possibilities of a Russian failure and of a premature operation in the West but said that the British and Americans must not disagree over the matter. General Marshall said that they only disagreed over "Sledgehammer". Mr. Hopkins insisted that Planning Staffs must not plan other operations until the President had agreed to abandon "Sledgehammer". Admiral King, ever a protagonist of action in the Pacific, feared that the arguments against "Sledgehammer" might well be used by the British against "Round-up". The Prime Minister then assured the American representatives that such fears were groundless. He himself was an ardent believer in "Round-up" and that was his main reason for disliking "Sledgehammer": the latter was too small and with no break in German morale would be ruinous to the prospects of "Round-up".

General Marshall, too, thought that "Round-up" was of the highest importance and believed that we should continue to concentrate on it rather than on some operation in the Mediterranean, the Far East or the Middle East. It was

/agreed

agreed that as a measure of deception and cover no indication should be given that "Sledgehammer" was to be dismantled.

C.C.S.94,  
d. 24.7.42.

Their conclusions and recommendations were consolidated into a paper which was approved by both Americans and British.

The upshot of the matter was that Mr. Roosevelt accepted their conclusions, Mr. Eden had to go to Moscow to explain our change of plan to the Russians, and our attentions became divided between planning for "Torch" on first priority and for the invasion of France on second priority. But the Russians and Americans would only be satisfied by the most definite assurances that we still regarded Western Europe as the area in which we intended to make our main contribution to the defeat of the Western Axis Powers.

VI. PROGRESS OF THE "BOLERO" PLAN

Necessity for Long Term Planning

To transform the United Kingdom into a springboard for an Allied force of land, sea, and air troops who would gather their united strength into certain areas in the South and then launch an invasion across the Channel involved a great number of projects which had to be settled a long time ahead. Decisions had to be made in time for new construction to be planned and undertaken in a due order of priorities.

The size and composition of the United States Air Forces for Europe (and, of course, land and sea forces) had to be determined before the question of their shipment, location, and accommodation could be adequately considered. The Marshall Plan and the Outline Plan for "Round-up", drawn up three months later by the Combined Commanders, had proposed the use of American forces over 1,000,000 strong, about 240,000 of whom were Air Force personnel.

As was the case when other operations were being planned, it was found that the greatest single limiting factor to their transfer at a rate ideal for the provision of accommodation was the availability of shipping. Troopships were insufficient to transport these numbers by the target date. Cargo shipping to transport their equipment and supplies was an even more serious bottleneck. Another problem that arose was the provision of escorts on the scale desired by the United States for their troopship and cargo shipping convoys. That was as much a bottleneck as was the shortage of cargo shipping.

Closely connected with the shortage of cargo shipping were -

- (1) the scheme for packing vehicles in America for transport and subsequent assembly in special plants on this side of the Atlantic;
- (2) the scheme for ferrying aircraft and personnel across the Atlantic, and
- (3) the scheme for the use of British stores by American troops in the United Kingdom.

/Attention

Attention has already been drawn to the fact that it had been anticipated that certain civil ministries would be as closely concerned with all the problems arising out of the "Bolero" movement as would be the fighting services. The Principal Administrative Officers Committee with its subsidiary administrative planning and co-ordinating agencies formed the link between such Civil Ministries and the Service Ministries. It was Sir Findlater Stewart's particular responsibility to watch the interests of the Civil Ministries in all matters arising from "Bolero" and "Round-up" requirements. Shipping questions and all matters relating to ports, railways etc., had to be settled with the Ministry of War Transport. Packing vehicles for transport in such a manner as to save shipping space was also a subject in which the Ministry of War Transport had an interest, while the setting up of assembly plants to handle them in the United Kingdom was a matter for the Ministry of Supply. The policy regarding the release of news about the presence of American troops in the United Kingdom was as much the concern of the Ministry of Information as of the Services, although it was the responsibility of the Chiefs of Staff to advise the War Cabinet on the security aspect, which was regarded as of paramount importance.

So far as the R.A.F. individually was concerned, the formation of the "United Kingdom Base" meant the construction of new aerodromes and considerable personnel accommodation. This constructional programme had to be co-ordinated with the manpower policy of the Ministry of Labour and National Service. Where any other Service was concerned, the Department of the Air Member for Supply and Organisation was able to take up questions direct with these Ministries, but where any such business had Inter-Service aspects it was handled through the appropriate Combined or Joint Committee.

The progress of the "Bolero" Plan during the summer and autumn of 1942 until the standstill due to "Torch" will be dealt with under the following headings:-

- (1) "Bolero" Troop Transport Programme.
- (2) Location and Accommodation of United States Forces.
- (3) The Problem of Convey Cycles.
- (4) Security or Publicity.
- (5) Arrangements to Save Shipping Space.

"Bolero" Troop Transport Programme

C.O.S. (42)143(0)  
d. 23.5.42.

The first Progress Report submitted by the London "Bolero" Committee to the Principal Administrative Officers, in accordance with the wish of the Prime Minister to be informed of the progress of the "Bolero" operation, stated that the number of United States personnel to be sent to the European theatre was 1,049,000. This was additional to some 40,000 American troops who were already over here and perhaps half that number in transit. Shipping capacity might, however, make it impossible to fulfil this programme by the target date of the 1st April 1943. The personnel capacity of shipping in sight fell short of the required total by about 230,000. In fact, D.D.W.O.2 (Group Captain Tyzack) Air Ministry's representative on the "Bolero" Committee wrote a minute to the Air Member for Supply and Organisation on the 24th May saying that the list of units expected by Headquarters U.S.A.F.B.I. to arrive in the United Kingdom between May and September 1942, showed that the arrival programme was not in phase with the shipping available. Summarised, his figures were:-

A.M.S.O. Folder  
"Bolero London  
Committee",  
Enclosures 15  
and 15A.

<u>1942</u>	<u>Forces available</u>	<u>Shipping available</u>
June	26,000	13,000
July	22,500	20,000
August	60,000	55,000
September	36,000	122,000

It will be seen, however, that personnel shipping would be available to cover all arrears by the end of September.

C.S.A. (42)4(0),  
d. 5.6.42. -  
"Bolero Progress  
Report No.4."

By the first week in June, revised estimates of shipping capacity were less optimistic. It was then estimated that only 66,000 men could be transported during the first four months instead of 210,000, and over the period up to the end of March 1943 only 766,000 could be transported as against a previous estimate of 826,000. The United States authorities, however, had promised that they had every hope of providing further troopships.

C.S.A. (42)6(0),  
d. 16.6.42.

The first official provisional programme of arrival of the United States Army Air Force Units appeared in the Fifth "Bolero" Report. This stated that 15 Groups (862 aircraft) were to arrive by the 1st July, 35 Groups (1,852 aircraft) by the 1st November, and 66 Groups (3,469 aircraft) by the 1st March 1943. These included heavy bombardment, medium bombardment, light bombardment, pursuit and transport aircraft. Not included were 38 Observation Squadrons (each of 13 aircraft) for close support of the U.S. Army which were also to arrive in the United Kingdom before the 1st March 1943. This total of 3,963 aircraft (3,469 plus 494) may be compared with the figure of 3,464 aircraft to be in the U.K. by 18th April according to General Marshall's Plan.

U.S.P. (42)3  
(= LM 245/DDO8)  
d. 17.4.42.

By the middle of July it was apparent that the gap of about 230,000 between the number of United States troops planned for the target forces and the shipping that was available to bring them across the Atlantic needed urgent investigation. On the 21st July the Principal Administrative Officers Committee enquired from -

- (1) the R.A.P. Staff whether the United States force stated was a minimum requirement for the 1st April 1943, or whether any deferment could be accepted by the Combined Commanders.
- (2) the Joint Movement and Transportation Committee how the deficiency in shipping capacity could be met.

/The

The Principal Administrative Officers Committee reported to the Chiefs of Staff Committee that ETOUSA had revised their requirement and now wished to transport 1,135,564 American troops to the United Kingdom. However, the shipping capacity had also been increased and was now 904,600, and thus the deficiency of 230,000 still remained. A few days later the Joint Movement and Transportation Committee were able to report that a review of the problem had disclosed that the ships available were able to increase their troop-carrying capacity to the extent of 130,000. The gap of 100,000 remaining represented approximately one month's lift.

When the subject came to be discussed in detail between the Joint Movement and Transport Committee, the Ministry of War Transport, the Service Departments and ETOUSA it was soon discovered that no reliance could be placed either upon the estimates of forces available for shipment or upon the shipping capacity available in the future to transport them. The readiness of particular units, the availability of particular ships and the carrying capacity of those ships, were all such imponderables that it was useless attempting to make exact longterm calculations. The capacity of the Queens<sup>(1)</sup> in the Summer of 1942, for instance, was 10,000 each. By reorganising the space in the ships and by refitting them, their capacity was increased during the Autumn to 15,000 each. As both ships did some dozen round trips per annum this improvement alone was capable of upsetting the estimates by over 100,000 men in one year.

Actual arrivals of troops were very satisfactory at first, 81,616 American troops of all types being in Great Britain and Northern Ireland by the 1st August. Of these, 18,393 were Air Corps, the bulk of whom were in England.

/Arrangements

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(1) The Cunard - White Star Liners "Queen Mary" and "Queen Elizabeth" .

Arrangements for Trans-Atlantic Convoys

In making the arrangements for personnel convoys bringing United States troops to the United Kingdom, the "Bolero" Committee (London) and its counterpart in Washington discovered that there was some difference of opinion between the British and American naval authorities. The United States Navy being short of escort vessels prepared a scheme for running American troop convoys at intervals of three weeks. That would result in large convoys containing about 75,000 United States troops in one load, apart from about 10,000 R.A.F. and Canadian troops when traffic had risen to the new level envisaged. These large numbers had serious disadvantages from the point of view of the British Reception, Transport and Defence authorities. They would produce congestion and delays up to seven days while discharging at the ports, while the problem of their defence was increased by the length of their stay in port and the size of the convoy. The large intakes at long intervals were also most uneconomical from the point of view of the railways and the Reception Camps.

As the Queens worked on a four-weekly cycle so that they were on this side of the Atlantic during the "dark" (or moonless) period it was inevitable that their arrivals would clash periodically with the arrival of large convoys working on a three-weekly cycle and thus make the congestion worse. Having in mind movement and reception considerations the British had proposed fortnightly convoys to which the United States Navy then submitted counter proposals -

- (a) Convoys to be at intervals of two and four weeks alternately, or
- (b) Britain to provide additional escort vessels required for fortnightly convoys.

The matter was referred to the Principal Administrative Officers Committee for their advice by the Chiefs of Staff Committee

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C.S.A. (42)1(0)  
d.30.5.42 -  
"Bolero": American  
personnel convoys  
to the U.K.  
C.S.A. (42) 4th  
Meeting.

and the former, with a representative of the Ministry of War Transport in attendance, and a Paper from the Director of Movements War Office, before them, discussed the matter on the 1st June. This discussion served to show that the problem was extremely complicated, and the Principal Administrative Officers eventually decided to invite the War Office to go into the question more thoroughly with the Admiralty and Ministry of War Transport before submitting to them agreed proposals for the solution of the problem.

C.S.A. (42)3(0)  
(= C.O.S. (42)  
160(?))  
d.3.6.42.

These proposals were approved by the P.A.Os and embodied in a report endorsing the recommendation that convoys should be run at fortnightly intervals, and failing that at alternate intervals of two and four weeks. Discussions continued on the subject for many weeks but remained somewhat academic while troops were coming over only in small convoys. Trouble was only anticipated when the planned intake of 100,000 a month began. As these intakes did not materialise until a year or more later when the shipping position was easier the controversy died down but served a very valuable purpose in drawing attention to the fact that the prime consideration in this connection was the British capacity to accept incoming troops rather than the American capacity to embark, carry or escort them.

The R.A.F. interest in the matter was due to the fact that the monthly quotas of aircrew from Canada might be affected. So far as the reception and accommodation of 8th Air Force personnel was concerned, too, the smaller fortnightly arrivals were preferred to larger or more fluctuating numbers. Consequently, the Air Ministry accepted the lead of the Army Movements Control on this question.

Release of News about the Arrival of American Troops

C.O.S. (42)61st  
Meeting on  
23.2.42.

At their 61st Meeting the C.O.S. Committee discussed a leakage of information which had resulted in a large number

C.O.S. (42)121  
d.19.2.42.

of unauthorised persons becoming aware of the movement of the first American troop convoy to Ulster. A report by Lord Swinton's Security Executive, stated that M.I.5 had attributed the leakage to two causes -

- (1) The degree and nature of the journalistic publicity decided upon by His Majesty's Government.
- (2) The lack of security co-ordination between various British and American Civil and Military authorities.

After some discussion, the C.O.S. Committee approved the suggestion by Lord Swinton that the same degree of security should be attached to moves of United States troops to the United Kingdom as was attached to moves of our own or Canadian troops.

This had remained the British policy until the beginning of May, when the matter took on a more important aspect. It was appreciated that there were great possibilities about the arrival of the Americans as a weapon in Psychological Warfare and a judicious use of the information might easily help to stiffen the resistance of our sympathisers all over the world at the same time as it might produce despondency and alarm amongst the supporters of the Axis. Its probable effect upon British morale was also an important factor. But from another point of view the news might have embarrassing consequences for the British Government if it led to premature expectations of a Second Front that could not be realised at an early date.

The wider political issues were a matter for the Cabinet to decide and for the Ministry of Information to advise upon and possibly to take action. But on the security considerations that should enter into the question the Chiefs of Staff would be expected to advise the Government.

C.O.S. (42)139th  
Meeting on  
4.5.42.

They discussed the problem on the 4th May having in mind the certainty that the public would see preparations being

/made

made for the arrival of the Americans and would hardly fail to hear of the presence of United States troops soon after they landed. It was appreciated, too, that a considerable amount of information would necessarily have to be disclosed in making administrative preparations for the reception and accommodation of the Americans in several parts of the United Kingdom. Having regard to these facts they requested the "Bolero" Committee<sup>(1)</sup> to state how far it was practicable and desirable to maintain security.

C.O.S. (42) 124(0)  
d.5.5.42.

The opinion of the "Bolero" Committee expressed in a Paper from its Chairman dated 5th May 1942 was that the C.O.S. Committee should prepare a statement for publication as a premature disclosure of the news would increase the danger to convoys. As regards the dissemination in official circles of information about actual movements, this should be restricted to those directly concerned and then no details of numbers or dates should be disclosed until the last possible moment.

Only such details of the "Bolero" Plan as were absolutely necessary should be disclosed to Administrative Staffs, but Regional Commissioners should be warned of its administrative implications to avoid action being taken which might later conflict with the implementation of the Plan. The Paper also pointed out, and ample evidence was available to confirm it, that official comment had already appeared in the American Press upon reports of the movement of United States Forces to the British Isles.

Meanwhile, the Prime Minister had decided to discuss this question with the President. Being aware that there was no immediate prospect of a Second Front being opened, Mr. Churchill would not at that juncture<sup>(2)</sup> be particularly

/anxious

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(1) Note - the P.A.O. Committee, as such, had not then been established.

(2) i.e. the first week in May.

anxious to make an announcement that would lead to expectations incapable of early realisation. The prospect of taking on the role of a modern Canning calling in a New World to redress the balance in the Old might have had great attractions for him, but if it did his usual caution in making promises helped him to resist the temptation. Accordingly no official announcement on this subject was made to an expectant world.

On the 11th May the Chiefs of Staff Committee consolidated the results of the discussion by stating that any announcements about the arrival or employment of United States troops in Europe were premature and that details of the operational and administrative plans must be restricted to those whose duties

C.O.S. (42)

147th Meeting, required such knowledge.

11.5.42 -

Conclusions.

There the matter rested until the 5th June, when the Director-General of the Ministry of Information (Mr. C.J. Radcliffe) wrote to the Chiefs of Staff Committee and separately to the P.A.O. Committee stating that the conclusions of a month ago would no longer stand. Secrecy was out-of-date, both owing to the facts that the United States Press had published numerous accurate statements on the subject and that the physical presence of United States troops in Britain led to considerable rumour and speculation over here. Mr. Radcliffe pointed out that to insist on further news blackout would make it impossible for his Ministry to perform its function and start preparing public opinion, press opinion, and local opinion for the reception of the Americans.

The P.A.O. Committee agreed that an early announcement was desirable from the administrative point of view, and drew the

C.S.A. (42)16  
(Revise)

d. 9.6.42. -

Announcement

of Arrival of  
U.S. Forces.

attention of the C.O.S. Committee to the matter in a Paper setting out the conclusions of their discussion upon Mr. Radcliffe's letter. The whole subject was reviewed by the

C.O.S. (42)

178th Meeting, States Press cuttings and photographs were available for study,

13.6.42.

and it was decided to endorse the views of the Administrative

/Chiefs

C.O.S. (42)307  
Final W.P. (42) 257,  
d. 16.6.42.]

Chiefs of Staff in a Report to the War Cabinet. In a few weeks time guarded references to the presence of United States troops began to be permitted both in the Press and on the Radio. But great care was exercised that no references were made to the location of specialists or to the areas where United States troops were being concentrated. The latter information was, however, made known on a limited scale to certain Administrative Officers whose duties required this knowledge.

The Transport of United States Equipment  
and Supplies to the United Kingdom

It has already been noted in a previous section that if the shortage of personnel and shipping for bringing the United States Forces to Europe was a bottleneck, the shortage of cargo shipping was even more so. This affected the Air Force equally with the Army, especially in the early months of the "Bolero" movement when Air Forces formed such a high percentage of the total United States Forces moved, and also in the case of transporting short-range aircraft which could not be flown across the Atlantic.

The problem of saving cargo shipping was a matter that was vital to every Service and Civil Department. It was considered so important that the Prime Minister held a special meeting late in July, when the representatives of the President were in London, to discuss the question with Mr. Hopkins and Mr. Harriman. Mr. Douglas, Lord Leathers, Sir A. Salter also attended. After prolonged discussion they considered that certain subjects merited further study with a view to saving cargo shipping. They were -

- (1) The packing of vehicles.
- (2) The reduction of the scales of equipment, reserves and maintenance considered necessary by the United States authorities.
- (3) A more efficient loading of vessels.
- (4) Improved port facilities to speed the turn round of ships.

Apart from cutting down the scales upon which the American troops were to be equipped, there were three main ways of easing the problem.

- (a) The Tilefer Scheme.
- (b) The American use of British stores.
- (c) Ferrying of aircraft across the Atlantic.

(a) Modern warfare is essentially a war of movement, and modern fighting services being thus dependent upon mechanical transport require a great quantity and variety of vehicles. American forces in particular have a very elaborate range and scale of vehicles to each unit.

The first estimate of vehicles required by the million United States troops was of the order of about 200,000, but the first "Bolero" Report stated that the figure was approximately 175,000 or at the ratio of one vehicle to every six men. Representations were made in Anglo-American Committees that this number was considered excessive when viewed in relation to the need for other equipment and stores and the current shortage of cargo shipping. The Second "Bolero" Progress Report stated that the Americans had revised their estimate of vehicles necessary to their forces to a new figure of 168,000 to be in Britain by the Spring of 1943. This was still too large a number for the shipping available to carry and means were sought to use the existing shipping space to better effect. It was their great bulk rather than their weight which precluded the transport of very large numbers of vehicles.

The Tilefer Scheme was a project of the Ministry of Supply, whose object was to save shipping space by assembling the vehicles in England after they had been dismantled and crated on the other side of the Atlantic. The planned output of the assembly plants was to be 12,000 per month from the 1st July, with a possible extension to a peak output of 20,000/25,000 if required at a later date.

Several types of pack were tried before one known as C.K.D., which effected a remarkable economy, was finally recommended. By then, however, the flow of arrivals had already fallen short, originally due to the shortage of shipping space but later owing to the changed direction of Allied strategy. The Prime Minister wired to Washington that American vehicles for use by "Round-up" forces should not exceed 100,000 rather than the 200,000 which he had heard suggested. Washington's reply was that in the altered circumstances the flow would continue until 30,000 had arrived in the United Kingdom and would then stop.

(b) During the months of June and July the "Bolero" Committee reported from time to time that the Services were considering the possibility of American troops making use of British supplies, equipment, vehicles, weapons, etc., so as to effect economies in cargo shipping. The final result was a formidable list of British stores so approved by the appropriate authorities for American troops and considerable quantities were so issued. Had an emergency operation been mounted in 1943 much of the equipment used by the Americans would have been from British production, but once again the postponement of "Round-up" for the smaller operation in North Africa meant that the United States were able to supply the bulk of their troops with United States equipment. As a matter of interest, the following British items were used in varying quantities for equipping some United States units:-

Spitfires	Decauville Track
Bicycles	Nails
Ambulances	Paint
Motor Coaches	Cutlery
Petrol tankers	Soap
Tank transporters	Sandbags
Cars (1,500 up to December 1942)	Clothing
M.T. spares	Tents
Fire fighting equipment	Timber
Anti-gas equipment	Sectional buildings
Somerfeld Track	Searchlights
	Ammunition.

Regarding the use of British supplies, arms, ammunition and equipment by United States troops this matter was

/handed

handed over by the Prime Minister and the President's representatives to the Combined Shipping Adjustment Board which proceeded to examine the possibilities of effecting the necessary economies and of making detailed recommendations in suitable quarters. In the event, many of these recommendations proved unnecessary owing to the decision to undertake "Tonch" in November 1942, rather than to invade Western Europe in the Spring of 1943. Though many schemes for economising shipping space were adopted as a result of these searching enquiries, and though the Tiler assembly plants proved their value in late 1943 and 1944, other factors such as the defeat of the U-Boats and the vast ship-building programme of the Allies combined to make the situation easier all round in a year's time.

As a means of simplifying the problem of allocating personnel accommodation as well as of saving building materials, the U.S.A.A.F. were prevailed upon to accept the same accommodation standards as the R.A.F. The United States Army, however, would only be satisfied with accommodation 25 per cent higher than the standard of that used by the British Army.

(c) As regards the transport of aircraft across the Atlantic, the main problem of moving 4,000 United States front line aircraft, their reserves, and the United States and Canadian built aircraft allocated to the Royal Air Force, was, as with vehicles, their bulk rather than their weight. Aircraft and engines, even when crated, occupy great space. The scheme for ferrying aircraft from North America proved so successful that after some months experience in 1942 all but the short-range Pursuit types were being successfully flown over. This went a long way towards solving what had been one of the most difficult of all the shipping problems.

"Bolero" Forces - Location and Accommodation

At the first meeting of the Principal Administrative Officers

/Committee

C.S.A. (42) 6(0),  
6th "Bolero"  
Progress Report,  
d. 16.6.42.

Committee it was laid down as a general principle that it would be desirable, from the administrative angle if acceptable from the operational point of view, that the American forces for the invasion should occupy the area of the Southern Command. In consequence, it will be recalled that the Committee issued a general instruction that no new requisition of accommodation should be made in this area unless for "Round-up" or "Bolero" purposes. As the reception and accommodation of the United States Forces was to be one of the main functions of the "Bolero" Committee the latter was instructed to make the arrangements necessary in collaboration with the "Q" Branch of the War Office. An Accommodation Sub-Committee under the chairmanship of Major-General Wootten was appointed to make these arrangements. Two projects were prepared, one to suit a total of 845,000 ground and air forces which appeared at the time to be the maximum number for which shipping was available by the 1st April 1943, the other to accommodate the 1,100,000 men estimated in the Mahshall Plan. Meanwhile, a survey was begun of the whole of the existing and potential Service accommodation in the Southern Command to form the basis of estimates of new construction and requisitioning action required.

C.S.A. (42) 2(0)  
Final d. 3. 6. 42,  
"Bolero" Progress  
Report No. 3.

By the first week in June the "Bolero" Committee was able to give the preliminary results of the survey. There was accommodation readily available for 390,000 men expandable by hutting to 495,000 without selecting new sites. Camp sites could be made available to accommodate a further 62,000 men. For storage purposes 6,400,000 square feet already in use could be made available to the Americans, and by building on adjacent sites this space could be increased by another 3,000,000 square feet. If considered essential, 1½ million square feet already in use could be added to the above total.

/Location

Location and Accommodation of Air Forces

The same survey also reported on the accommodation that would be necessary for the United States Army Air Forces. Information had been given to the Committee that 3,649 United States aircraft might be expected to arrive by the 1st March 1943, and that 200 squadrons of both nationalities - mainly fighter types - would be operating South of a line Harwich - Bath. Based on these assumptions, the Committee tentatively assumed the labour requirement for new construction as 182,000 men, 168,000 of whom would be constructing aerodromes.

The first authoritative statement on the location and accommodation of the United States Air Forces for "Round-up" was contained in a Paper by D.D.O.P. (Group Captain Sharp) dated 4th June. As a result of discussions between Generals Arnold and Eaker (representing the U.S.A.A.F.) and Sir Christopher Courtney and Sir John Slessor (representing the R.A.F.) broad principles governing the employment and disposition of United States Air Forces in Britain had been settled. The Paper by D.D.O.P. filled out the details of the decisions arrived at during these discussions.

The United States Bomber Command Headquarters was to remain at High Wycombe so that work in collaboration with the Royal Air Force Bomber Command Headquarters could continue. United States bomber forces would at first occupy aerodromes in No. 8 Group Area; then would take over the new B and D Group Areas together with certain airfields in No. 2 Group. Ultimately they were also to occupy No. 3 Group Area. The possibility of exchanging No. 8 Group for No. 2 Group so that there would be distinct British and United States zones was also borne in mind.

Although the primary role of the United States Pursuit Groups had been laid down by the United States authorities as the escort of their bombers, it was arranged, in deference to R.A.F. views, that they should at first be split into separate

/squadrons

C.A.S. Folder  
No:1806, Part II,  
LM409/DDOP.,  
d.4.6.42.

S.6. Folder  
No:24OB.,  
Minutes of a  
Meeting on  
28.5.42.

squadrons and accommodated at R.A.F. fighter sectors for acclimatisation and operational training. Later they were to be re-grouped on all-American Stations so that they could take over complete American sectors, and ultimately, complete American groups. No.82 Group (Northern Ireland) and No.12 Group (Eastern England) were suggested as suitable. As such, however, they were to be under the operational control of Fighter Command, and the United States Fighter Command was to be established near the Royal Air Force Fighter Command at Bentley Priory.

Transport aircraft and the Observation Squadrons to work in close support of the United States Army were to be near the main body of United States troops in the Salisbury Plain Area. Arrangements were also made for the accommodation of U.S. Mobile Air Depots and Flying Training Establishments.

The Paper included a number of appendices, one of which was a programme of arrivals which was intended as a basis for long term planning by the R.A.F. In view of the uncertainty about later arrivals, detailed arrangements were only to be made for those due to arrive by the 1st July 1942. Other appendices furnished information on United States personnel and aircraft establishments, on aerodromes allotted to United States forces, and to arrangements for their accommodation.

VII. STRATEGY IN THE EUROPEAN THEATRE - AUGUST 1942  
TO MAY 1943

American Intentions in North-West Europe

Discussions with the Americans on the build up of U.S. Forces in Britain, revealed that there was considerable confusion and uncertainty as to their intentions in face of the new situation. At the beginning of September, General Eisenhower made certain proposals about the disposition and employment of the U.S. forces in the U.K. for the concurrence of the British Chiefs of Staff. United States combat troops were to be withdrawn for "Torch", except for a balanced force of 150,000. Advantages in training, administration and command would follow if all the U.S. troops could be concentrated in the area of the Southern Command where they would remain a threat to the enemy. The air forces would, however, continue to build-up in the U.K. as arranged.

As one of the main arguments for "Torch" had been that this operation would employ many U.S. troops which would otherwise be idle, these proposals came as a severe shock to the British who had expected that "Torch" could be undertaken by U.S. troops from the United States. The Chiefs of Staff were gravely concerned about the defence of Great Britain and of Northern Ireland, and about the possibility that the "Bolero" Plan would be abandoned by the United States, and further enquiries on these points were made after a Staff Conference at Chequers on the 21st September. In view of the forces we were sending to the Eastern theatres - 30,000 a month - it was essential to have an assurance that the U.S. was not going to be denuded of U.S. troops.

General Eisenhower was not at first willing to accept the continuance of responsibility for the defence of Northern

/ Ireland,

Ireland, but upon being relieved of the responsibility for the ground defence he agreed to accept the obligation of its air defence in a letter to the Chiefs of Staff on the 5th October.

With regard to the "Bolero" Plan the United States authorities furnished the information that by April 1943 they expected to have 190,000 Air Corps, 150,000 Ground Troops, and 107,000 S.O.S. Troops in this country. The intention was to give priority to movements for "Sickle"<sup>(1)</sup> so as to aid in the bomber offensive on Germany.

While these discussions were taking place, those responsible for the long-term planning were unable to give any clear direction to their subordinates. Their previous directive had been based on the Chiefs of Staff Committee's acceptance of the Outline Plan for "Round-up". Outline planning had proceeded a stage further by the middle of August when a Plan for the second phase of "Round-up", i.e. operations following the establishment of a lodgment area, had been issued by the "Round-up" Planners. This had been fundamentally modified by the instructions that had been issued at the Chiefs of Staff Meeting on the 22nd August regarding the slowing up of the invasion preparations.

The re-examination of the situation resulted in a new directive on Admin Planning for "Round-up" being issued by the C.O.S. (42)266(0) Chiefs of Staff on the 11th September<sup>(2)</sup> although at that time only d. 11.9.42 tentative estimates of the numbers of American troops for which provision would have to be made were available. These figures differed from those quoted at the Chiefs of Staff Committee Meeting on the 1st October, but no modified directive was then issued to the P.A.O. Committee. It was realised that until the full implications of "Torch" had been appreciated and a new review of the threat of invasion and of the state of British defences had been made, no clear direction could be given about planning to invade the continent.

/ Combined

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(1) Code name given to the part of "Bolero" concerned with the U.S.A.A.F.  
(2) See page 111 below.

Combined Bomber Offensive

With the prospects of an invasion of the Continent on a grand scale being launched from a U.K. base fading before their eyes, strategists began to re-orient their ideas as to how the war could be won from Britain. Once again the belief that a great bomber offensive could hammer the life out of Germany began to gain favour. The Air Staff and the A.O.C.-in-C., Bomber Command, began to discuss a heavy bomber force of from four to six thousand aircraft with the Americans and with the politicians.

File A.C.A.S. (P)  
40/1 - U.S./  
British dis-  
cussions November,  
1942. Webber W.999  
dated 30.10.42.

In briefing Air Vice-Marshal Evill for the United States/  
British discussions to take place in early November, C.A.S.  
gave a summary of what was being thought in England:-

".....We regard as fundamental.....that  
invasion of the Continent is impracticable until  
German military power has been undermined by the  
destruction of the German industrial and economic  
war machine for which the heavy bomber will be the  
main weapon backed by the most rigorous blockade."

The C.O.S. recommended for this purpose that the necessary  
priority should be given to permit the building-up an Anglo-  
American bomber force of four to six thousand aircraft in the  
United Kingdom by the summer of 1944.

C.O.S. (42)345  
(0) dated 30.10.42  
Future Strategy.

The new review of strategy was embodied in an elaborate  
Paper which stated in its conclusions that to defeat Germany -

- (1) the destruction of the foundation of German military power must have absolute priority of Anglo-American production, subject only to meeting the minimum requirements for security and for holding Japan;
- (2) all resources left over from (1) should be devoted to the build-up of forces in the European theatre for a re-entry on the Continent when German morale and power of resistance have been sufficiently shaken.

In other words, now that the bulk of American troops had been removed from Britain the type of invasion which was planned to crush German resistance was considered impossible. Instead, the Paper concluded that an Allied bomber force should be

/ expanded

expanded as rapidly as possible with a target figure of four to six thousand aircraft by April 1944, with the object of attacking the German Homeland. In Western Europe we were to content ourselves with a blockade, small raids, and air combats.

The Air Plan was further developed and was taken to America by A.C.A.S.(P) for the Anglo-U.S. discussions in November although C.A.S. was careful to point out that it had not been approved by the Prime Minister.

C.O.S.(42)392  
(0)

The way in which Mr. Churchill was thinking at that time was indicated by a Note to the Chiefs of Staff where he said -

"The paramount task before us is first to conquer the African shores of the Mediterranean and open effective passage for military traffic and secondly using bases on the African shore to strike at the underbelly of the Axis."

In subsequent passages of this note the Prime Minister was strongly in favour of mounting a bomber offensive from North Africa to supplement that from the U.K. But he never indicated his belief that either the air offensive however conducted, or the Mediterranean campaign, could defeat Germany.

C.O.S.(42)399  
(0) Strategy  
in 1943 -  
Minute by  
Prime Minister  
dated 18.11.42.

In a minute to the Chiefs of Staff on "Strategy in 1943" he said -

"'Torch' is no substitute for 'Round-up'.....  
I am still aiming at a 'Round-up' retarded till August  
.....before I commit myself to a target of four  
to six thousand British and American heavy bombers  
.....I must know exactly what this means  
.....in shipment of air groundsmen,  
stores and petrol....."

As it was quite clear that the Allies would be unable to sustain two major combined operations at the same time and as "Torch" had now begun, further discussions on strategy seemed pointless until the results of the North African operation could be appreciated. Not until the Casablanca conference in January were any further decisions made as to the future direction of Allied strategy.

Casablanca

The Casablanca Conference (code word "Symbol") sat from the 15th to the 23rd January 1943. After prolonged preparations

/ and

C.C.S. 170/2  
dated 23.1.43.

and long discussions the Combined Chiefs of Staff issued a Report of its conclusions, which was approved by the President and the Prime Minister. It was decided that as the shipping position precluded a "Bolero" build-up large enough to mount a full-scale invasion of Western Europe, the main Allied effort in 1943 should be concentrated on clearing the enemy from the Mediterranean Sea and then attacking the under-belly of the Axis.

C.C.S. 172

Operations from Great Britain were to follow the general lines suggested three months earlier in C.O.S. (42)345(0), i.e. a combined Bomber Offensive, together with amphibious operations, air battles, and a possible return to the Continent in the event of German disintegration. For this purpose British resources would be supplemented by American forces, increasing on a scale indicated by a Plan drawn up by General Somervell. Plans were to be prepared for a large-scale re-entry in 1944 with the object of knocking out Germany. The combined Bomber Offensive was to be conducted by a large force of heavy night bombers of the R.A.F. and heavy day bombers of the Eighth Air Force operating under the strategic direction of C.A.S. The U.S. Commanding General would, however, decide the technique and methods employed by the American bombers.

C.C.S. 166/1/D.

General Somervell's Plan supplied the new "Bolero" proposals so long desired by the Administrative Planners. In essence, they were still based on a deferment of the Marshal Plan except that the total forces now envisaged were smaller by about 10 per cent. The total U.S. Air Forces were now to be 172,000 on the 31st December 1943, and the total U.S. personnel in the U.K. 938,000 on that date. (1)

/ Finally

(1) Table showing U.S. troops available in U.K. on dates shown.

<u>1943</u>	<u>Divisions</u>	<u>Total Personnel</u>
15.8.	4	384,000
15.9	7	509,000
15.10	9	634,000
15.11	12	759,000
31.12	15	938,000

C.C.S. 167 &  
169

Finally, it was decided at "Symbol" that the appointment of a Supreme Commander for North West Europe was premature, but it was recommended that a British Chief of Staff to the Supreme Commander should take charge of planning, with a staff completely independent of the Combined Commanders. The existing staff at Norfolk House should be adapted to the new organisation and strengthened by the addition of more U.S. Planners. Administrative planning would still have to be done very largely by the normal Administrative Staffs in the Service Departments and in Headquarters, ETOUSA. These staffs should, however, along with the Norfolk House Planners, appoint a Joint Administrative Planning Staff for taking charge of the administrative aspects of the invasion of Western Europe. One of the first tasks of the Supreme Commander, when appointed, should be the simplification of the unduly cumbersome system of Inter-departmental Administrative Planning then existing. The appointment of a Commander-in-Chief for the Allied Expeditionary Air Force was approved in principle.

C.C.S. 67th  
Mtg. Conclusion  
4(1)

"Symbol" to "Trident" - January to May, 1943.

During the Winter and Spring of 1943, the attention of the world was centred on the dramatic events in North Africa and speculation ranged on the wealth of possibilities opened up by the rapid success of the Allies. The scale of the operations in that theatre became enlarged, and plans were laid for combined operations against selected areas which could be used as bases for the invasion of Fortress Europe.

On their return from Casablanca the planners set about the task of modifying their plans to fit the new strategy. Further preparations were devoted to the development of Combined Operations in the Mediterranean, while the pace of the expansion of the R.A.F. quickened because of the mounting of the Combined Bomber Offensive from the U.K. The recommendation that the planning of cross-Channel operations should be centred under one man who would eventually give way to a Supreme Commander was not

/ implemented

implemented until two months later. As the re-entry of the Continent seemed now to be a definite long-term project unless Germany collapsed, there was little urgency in the preparations and they continued to be made in somewhat isolated directions. The attention of the R.A.F. was centred, in the main, upon learning the lessons of operations in North Africa and applying them to the new organisation for the invasion of Western Europe.

VIII. ADMINISTRATIVE PLANNING - SUMMER 1942 to SPRING 1943

Construction of Advanced Landing Grounds in Southern England

The task of advising the Air Member for Supply and Organisation on the numbers and allocation of new aerodromes for "Round-up" within the framework of Air Ministry policy fell to the Special Planning Staff on behalf of the C.-in-C., Fighter Command. O.P.1A (Squadron Leader Playford) was attached to the S.P.S. to assist in this work, and during the first three weeks of June intensive reconnaissance was carried out by members of A.M.S.O.'s staff to discover possible sites for 40 new Advanced Landing Ground South of a line from Harwich to Bath. 25 new A.L.Gs were to be West of a line from Windsor to Bognor and 15 of them East of that line.

As this first commitment stated by A.C.A.S.(P) was followed by a further statement from the S.P.S. that 50 new airfields might be required in the whole area the A.M.S.O. ordered a census of aerodromes existing or under construction. The result was that 75 aerodromes capable of accommodating 176 squadrons were listed, while in areas a little to the North and West of the datum line, another 51 aerodromes were situated. Writing to the C.-in-C., Fighter Command the Air Force Commander (designate) for "Round-up", A.M.S.O. suggested that these were surely sufficient for the operation.

The S.P.S. submitted a Memorandum signed by the A.O.C.-in-C., Fighter Command, on "Aerodrome Requirements in Southern England for "Round-up" which embodied the conclusions that had been reached on the subject. It stated that the invasion would require a total of 251<sup>(1)</sup> squadrons South of the line Frinton - Reading - Weston-super-Mare. The only reductions acceptable would be in squadrons of American Transport, Light

/ Bomber

(1) c.f. figures quoted by the "Bolero" (London) Committee. There were for some time many discrepancies between such estimates due to uncertainty as to what units of the U.S.A.A.F. would be accommodated in this area. The 200 Squadrons quoted did not, for example, include aircraft to lift Airborne Troops.

File CS/14842/1/  
Air (= A.E.A.F./  
MS/1/Air) Encl.  
1a dated 12.5.42.

File A.E.A.F./MS/  
1/Air - Encl.6D -  
Letter ref. AMSO/  
5/19 to A.O.C.-  
in-C. Fighter  
Command.

File CS/14842/1/  
Air (= A.E.A.F./  
S/1) Encl.'s 6A  
& 6B, dated  
9.6.42.

Bomber and Observation aircraft which, according to D.D.C.P.'s statement two days earlier, would be located in this area. It was suggested in the Memorandum that these requirements could all be considered at a conference of the interested parties. A detailed annexure on Aerodrome Requirements and a suggested Order of Battle concluded the Memorandum.

Meanwhile the search for new sites continued in the areas indicated by the Special Planning Staff. The latter specified the general area where airfields were required, the minimum requirements acceptable as regards runways, etc., and the approximate number of squadrons for which accommodation was required in each area.

The areas to which squadrons were allocated were decided after considering which centres in France were likely points of attack due regard being paid to the probability of all Spitfires being fitted with drop tanks. Arcs were drawn at 110 miles radius from such places as Abbeville, St Valeris, Havre, Caen and Cherbourg. Squadrons were to operate from within such arcs in Southern England and therefore airfields had to be made available. If they did not already exist in those areas new ones had to be constructed. A.M.S.O. was advised, however, that elaborate facilities were not required upon new A.L.Gs. Only such refuelling and rearming facilities were required as would enable aircraft to operate from these fields: squadron maintenance could be carried out further back.

In the light of the postponement of the invasion and of the requirements that were later made known in 1943 when it was decided to invade in the Caen area, it is of considerable interest to note that of the first new construction for the R.A.F. most of the A.L.Gs were in the Ashford - Romney - South Downs area, and those meant for the U.S.A.A.F. were in the New Forest and Selsey areas. In other words, the greatest dearth

of airfields in 1942 was within the Caen and Havre arcs, and those constructed on that account proved to be of the greatest value in 1944.

A.E.A.F./MS/1/  
Air - Encl. 134A -  
Minutes of  
Conference

The Conference to discuss aerodrome requirements for "Round-up" took place at Montague House on the 30th June 1942 with Air Chief Marshal Sir Christopher Courtney (A.M.S.O.) in the Chair. Air Marshal Sir Sholto Douglas (A.O.C.-in-C., Fighter Command), Major-General Spaatz (Commanding-General Eighth Air Force) and members of his staff, Air Vice-Marshal Edmonds and Air Commodore Groom (S.P.S.) attended, together with D.D.O.P. and other representatives of the U.S.A.A.F. They discussed the basis upon which the S.P.S. had decided to allocate the squadrons and agreed generally with that disposition. Transport squadrons should be in backward areas, but no decision was made about the location of Observer squadrons in the absence of full information as to how they were to be employed.

By the time the Conference met, new and much smaller estimates of the total United States Air Forces to arrive in the United Kingdom by the Spring of 1943 were available, so that the requirements for new A.L.Gs had been tentatively scaled down from 40 to 19. This new number appeared to be too conservative to members of the Conference, and they recommended the construction of an additional seven A.L.Gs as a reserve to be as near to the "Caen arc" as possible.

The search for suitable sites and their consideration went on until the end of July. D.D.O.P. and the Aerodrome Board had many discussions with the Ministry of Agriculture, the Army, and the "Round-up" Planners before the final selections were made and construction was begun. By the middle of August 27 sites had been selected and approved.

/ But

L.M. 204/O.P. 1A, But no sooner was work about to be commenced when the  
dated 15.8.42 -  
monthly Progress decision made on the highest level to proceed with "Torch" on  
Report on A.L.G.'s  
No. 1, Aug. 1942. first priority rather than with the invasion of France took  
place. This gradually made itself felt at lower levels, and  
on the 2nd September D.G.O. wrote that "it would be of  
L.M. 2613 to considerable assistance to us if - if the date for "Round-up"  
A.M.S.O. from  
D.G.O. (L.F. Hollinghurst) is likely to be postponed - we could be so informed as the  
dated 2.9.42. additional time available would, in some circumstance enable  
us to meet the objections of the Ministry of Agriculture".  
The information given was, however, to the effect that the  
United States Air Forces were not likely to be reduced in  
numbers on account of "Torch" nor was their arrival likely to  
be much delayed. The R.A.F. were to continue working on the  
assumption that 195,000 U.S.A.A.F. personnel would be arriving  
in this country by the Spring, and the provision of airfields  
and equipment was not to be phased back because of any doubts on  
that score.

Work on the first 6 A.L.Gs was commenced on the 14th  
September, and a week later A.M.S.O.'s department stated that 10  
were to be completed by the 1st March 1943, and the remaining  
17 by the 1st June 1943. Nearly two months later, 25 sites  
were under construction. As a definite decision had been  
reached regarding the employment of United States Observer  
Squadrons along with Army formations, 6 additional sites, and  
probably 3 more, had to be prepared for occupation by United  
States Air Support Command, and it was hoped that all these  
would be completed by the 1st June 1943. All 27 A.L.Gs in  
the programme were in fact completed during the Summer of 1943,  
in spite of some further re-arrangement of the work to secure  
the most economical use of the resources being employed.

Revision of Administrative Planning for the  
"Second Front"

It will be recollected that the decision not to undertake

/ any

any invasion in the absence of pronounced deterioration in the power of Germany had not received the concurrence of the Americans until the end of July and even then only after the British had agreed to maintain plans for an emergency operation that could be undertaken at short notice. The British, on the other hand, had only refused to undertake a sacrifice operation and were also committed to undertake to invade the Continent if German morale broke down. The decision to concentrate on "Torch" was for some time known only to a small circle and, consequently, there was considerable uncertainty on planning levels as to the operational and administrative requirements of our strategy.

On the 17th August, 1942, the P.A.O. Committee drew the attention of the C.O.S. to the fact that they were working on the requirement to receive upwards of 1,000,000 U.S. troops and to be able to mount "Round-up" by the 1st April 1943.

"..... Much of the work is already in hand and the contract stage for the remainder is rapidly maturing". They requested a directive with regard to the future policy for "Bolero" "Round-up", "Sledgehammer" and "Torch" which will clarify:

- (a) the relative priority of the various operations
- (b) the extent to which operations must be concurrent
- (c) any admissible deferment in target dates".

The disadvantages of such uncertainty were appreciated by the Chiefs of Staff, who, on the 22nd August, held a meeting to which they invited the C.-in-C. Fighter Command, and the Principal Administrative Officers. They discussed the arrangements that were to be made for the planning and preparation of operations on the Continent in view of the decision contained in C.C.S. 94 dated the 24th July 1942, extracts of which were quoted by Sir Charles Portal, Chairman of the Meeting.

- "(a) That for purposes of deception and to be ready for any emergency or favourable opportunity all preparations for 'Sledgehammer' continue....."
- "(b) That it be understood that a commitment for this operation (Torch) renders 'Round-up' in all probability impracticable.....in 1943..... but that the organisation, planning and training for eventual entry into the Continent should continue so that this operation could be staged should a marked deterioration in German military strength become apparent and the resources of the United Nations available after meeting other commitments so permit".

Sir Thomas Riddell Webster, Q.M.G., said that -

- (a) Aerodromes, hards and roads for "Round-up" would not be required so soon. To accord the right degree of priority to their construction, a new target date was required.
- (b) The shipping commitments for "Torch" would set back the "Bolero" programme by four months. If advantage of this could be taken on the "Round-up" works programme, considerable saving of manpower could be effected.

The 4th Sea Lord said that the best way to arrange administrative planning would be to make the best possible estimate of the stages by which our invasion forces would increase. This was generally agreed, and it was added that this would also help civil production and manpower problems.

Lord Louis Mountbatten said that all landing craft and crews would be used up and new ones would be needed. It would therefore be impossible to mount "Sledgehammer" before March or April 1943.

The re-examination of the situation resulted in the Chiefs of Staff Committee issuing a directive on the administrative planning for "Round-up" on the 11th September 1942. "Our object" they said "remains the same. The largest invasion of the Continent from the United Kingdom that can be launched at any time at short notice". But "Torch" made it necessary to revise the dates by which the administrative preparations for such a return to the Continent were to be completed. New estimates of the maximum number of United States Army and Air Force personnel in the United Kingdom were quoted, namely by mid-April 1943, 350,000, by the 1st August 1943, 930,000. In

/ the

C.O.S. (42)266  
(0), dated  
11.9.42. -  
Administrative  
Planning for  
"Bolero" and  
"Round-up" -  
Directive by  
Chiefs of Staff  
Cttee.

the event of "Torch" being cancelled (in November) these figures would be - by mid-April 1943 - about 600,000, by June 1943, 930,000. That was stated to be the basis of the "Bolero" development in the United Kingdom. The total United States Air Force contingent for "Bolero" purposes would amount to 195,000 and all works and installations were to receive sufficient priority to ensure that the full 195,000 airmen<sup>(1)</sup> could be received in Great Britain by the middle of April 1943. The highest importance was attached to their earliest possible arrival.

With regard to British forces, the administrative arrangements should be such that the conversion of British land and air forces to a mobile footing could proceed without interruption by a programme whose stages were worked out by the Commanders-in-Chief and the Service Ministries. If sustained work on preparations for a return to the Continent would entail inefficiency of war effort it might be relaxed, but it was important that the enemy should not understand that there had been any relaxation.

As the S.P.S. was responsible to the C. in C. Fighter Command for Air Force planning for the invasion, this matter was taken up by A/V/M. Edmonds in collaboration with Fighter Command Staff Officers. The S.P.S. had to verify that action was being taken to ensure that sufficient mobile units were available, suitably equipped and established and in a position to operate if required for an emergency operation. In practice however, there was no early prospect of this being possible. Units had to be designed and developed and then tested in exercises and battle conditions before an efficient Mobile Air Force could be ready to operate. Fortunately, operations in the Western Desert and later in French North Africa presented opportunities for trying out organisations and equipment of which good use was made. Prior to these

/ operations,

(1) This was because the United States A.A.F. was to take part in the Combined Bomber Offensive.

operations, however, substantial contributions had been made by the S.P.S.

The department of the Air Member for Supply and Organisation at the Air Ministry proceeded on the basis of the new directive, however unlikely it was considered that the forecasts therein would be substantiated. On the 24th October 1942 Air Vice-Marshal Edmonds of the Special Planning Staff for "Round Up" wrote a D/O letter to the Air Member for Supply and Organisation to obtain confirmation on this point, and Air Marshal Sir John Bradley (D.A.M.S.O.) duly confirmed that the Air Ministry was going ahead making D.G.E. arrangements (fuel, bombs, barrack supplies and other equipment) on the basis of a United States Army Air Force figure of 195,000 personnel by mid-April 1943.

Administrative Implications of the New Allied Strategy November 1942 - June 1943.

It will be recollected that the mounting of "Torch" involved what was at first considered to be a postponement of the "Bolero" build-up by four months, so that even if the North African operation had been cancelled the invasion of France could not have been begun before the 1st August 1943. It was the appreciation of this fact that was largely the reason for the policy embodied in C.O.S. (42)345(0), which advocated, amongst other things, the building-up of a large force of heavy bombers to attack the sources of Germany's war making capacity and so reduce her strength so that large land forces would not be necessary when the time was ripe to re-enter the Continent.

The Principal Administrative Officers Committee was invited by the Chiefs of Staff to examine and report on the Administrative implications of that strategy. In their discussions on this subject they decided that without fuller information on the numbers and composition of the forces to be employed in each theatre, they could not come to any definite

/ conclusions.

conclusions. It was suggested that the Operations Staff in each Service should be asked for this information. But the crux of the situation lay in the availability of shipping, and this was not yet apparent. Finally, the Committee decided that the real need was a preliminary examination of the question at Directors' level, a need which had been felt before when numerous co-ordinated matters had come before them, usually from one Service before being considered by the other Services. Consequently it was decided that this question, and others similarly, could best be dealt with by the Joint Movement and Transportation Committee reconstituted as a Joint Administrative Planning Committee. At the same time the P.A.O. Committee decided that, as there could be no purpose in constructing accommodation in this country for larger numbers of U.S. troops than could in fact be transported here, the Chiefs of Staff should be asked for a revised directive on the "Bolero" programme.

Joint Administrative Planning Committee

As reconstituted, the scope of the Committee was widened so as to include all questions of an administrative nature and not merely questions of movement and transportation. Technical and specialist questions would in future always be referred to the appropriate specialist Committees already existing, such as the Shipping Committee of the War Cabinet, and the Overseas Port and Transit Committee of the War Office.

The Committee had started its life mainly because of the numerous movement and shipping questions arising out of "Bolero"; these had now been largely solved, and "Bolero" questions had for some time relapsed into the background. It was intended that the J.A.P. Committee should become something like the administrative counterpart of the J.P.C. Its members remained responsible to the individual Principal

/Administrative

Administrative Officers and continued to work under their own Ministries, and the main duty of the Committee was to examine, as directed, the administrative aspect of Plans prepared by the J.P.S. which seemed likely to be put into operation at an early date.

Although the need for some such Committee was acutely felt by all the Principal Administrative Officers, it met with considerable hostility within the Air Ministry. D.W.O.

A.M.S.O. Folder considered the whole conception unsound. So far as the P.A.O's Minutes of P.A.O. Meetings - Brief received miscellaneous and inconclusive papers from various sources that had constantly to be referred back for re-consideration, he thought that the remedy was to insist that papers with Inter-Service repercussions should be jointly signed. So far as the administrative advice tendered to the C.O.S. had been unco-ordinated, it was up to the Directors of Plans and the Administrative Staffs of the Ministries to get together. Administrative implications should be embodied in plans whilst they were still in the hands of the Joint Planners. As for the request of Administrative Staffs to be given more information about future operations "it is quite unreasonable to think that future developments can be handed, as it were, on a plate to isolated administrative departments."

Both the Admiralty and the Air Ministry were in fact anxious that there should be no interference with the close day-to-day contact between Operations and Administrative Staffs in the Service Departments. The new Committee should only deal with the administrative aspects of future plans if specifically directed to do so by the P.A.O. Committee: for example, in a case where it was necessary to resolve a difference of opinion between the Administrative Planners of the three Services. Administrative Planners in the Services should keep in the closest touch with their own representatives on the J.P.S., and the normal procedure would be for each member of the Joint Planning

/ Staff

Staff to obtain administrative advice within his own Ministry.

C.S.A. (42) 25th Meeting.

On the 16th November, when Sir Cyril Hurcomb was invited to attend a meeting of the P.A.O. Committee, the additional point was made that the Joint Movement and Transportation Committee had dealt with technical shipping questions that could have been better dealt with by the Ministry of War Transport. As a result, it was decided to consult Sir Syril before any matters involving shipping policy were referred to the Joint Administrative Planning Committee, and a representative of the Ministry of War Transport would be a permanent member of the J.A.P. Committee to ensure that information was obtained from the appropriate source. The J.A.P. Committee would continue to consult with the Combined Military Transportation Committee, Washington, as before. Apart from the member from the Ministry of War Transport the other permanent "signing" members of the Committee remained one each from the Admiralty, the Air Ministry, and the War Office, with the Director of Movement, War Office, who was responsible for the movements of all three Services.

It was in these circumstances that the J.A.P.C. set out to examine the administrative implications of future strategy in the Spring and Summer of 1943 at the request of the Chiefs of Staff. At the same time, the Admiralty, War Office, Air Ministry, Ministry of Aircraft Production, Ministry of War Transport and the Oil Control Board were requested to provide detailed information on various administrative implications of the proposed Bomber Offensive to supply Mr. Churchill with the figures he required<sup>(1)</sup> about "the shipment of air groundsmen, stores and petrol".

The the 20th November the Principal Administrative Officers attended the 186(0) Meeting of the Chiefs of Staff and agreed that the basis of long-term planning should be:-

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(1) On the 18th November, 1942.

- (1) C.O.S. would inform the Principal Administrative Officers of the scope and nature of possible operations in the Mediterranean up to next Spring when the information was available.
- (2) Taking the implications of these operations into account, the Principal Administrative Officers would estimate the maximum "Bolero" forces which could be brought to the United Kingdom. The P.A.O. Committee therefore directed the Joint Administrative Planning Committee to prepare an Appreciation indicating -
  - (a) The extent to which our major strategy might be limited by shipping, and
  - (b) The possible rate of "Bolero" forces build-up throughout 1943.

C.S.A. (42) 13th Meeting (O) on 23.11.42.

on the assumption that the "Bolero" movement was on the lowest priority as compared with all other operations contemplated but that the Mediterranean might be open for shipping by about the 1st June 1943.

The first answer to these questions was furnished by the J.A.P.C., after much delay, in a Paper entitled "Administrative implications of the proposed Bomber Offensive" where they concluded that heavy American assistance in tankers would be needed if the existing air expansion programme was to be sustained apart from the projected Combined Bomber Offensive.

C.S.A. (42) 48 (O) on 16.12.42.

As our future strategy itself was still in doubt, six weeks were to elapse before the second study was completed and issued by the J.A.P.C. under the title of "Shipping Implications of Future Strategy". The Paper concluded that barring unforeseen contingencies we could nearly meet our known commitments in personnel shipping, including the building-up of the U.S. forces of 427,000 men in the U.K. by mid-July 1943 as specified by General Eisenhower. Cargo shipping to keep pace with the

C.S.A. (42) 52 (O) (= J.A.P. (42) 5(O)) dated 24.12.42

/"Bolero"

"Bolero" movement would only be provided by excluding any increase in Indian Ocean maintenance and American assistance to Russia unless additional cargo ships could be made available. Finally, little, if any, assistance could be anticipated during the next six months from the opening of the Mediterranean.

New Arrangements for "Bolero"

So far as the "Bolero" force in the U.K. was concerned, ETUSA had said that the target was still one million U.S. troops to be ready for the invasion of Western Europe but that the present U.S. plan was to establish a "first contingent" of 427,000 troops in the U.K. made up of 172,000 Air Force personnel, 150,000 ground troops and 105,000 Services Supply troops, who were to be here by the middle of April 1943.

C.O.S. (42) 387(0)  
(=C.S.A. (42) 41(0))

On the 10th November the P.A.O. Committee sent a Memo to the C.O.S. Committee recalling that the previous directive on the subject dated the 11th September had stated that when "Torch" was actually launched a reduced rate of preparation for "Round-up" was admissible except in work preparatory to the arrival of United States troops.

They called attention to the size of the constructional programme<sup>1</sup> and the advantages that would accrue if its urgency could now be relaxed. They requested a directive giving them estimated United States arrivals month by month up to April 1944 and a phased estimate of the maximum force to be employed in this operation and guidance on the extent to which information should be revealed to those taking executive action.

C.O.S. (42) 322nd Meeting.

Before issuing the required directive the Chiefs of Staff discussed the matter with the Principal Administrative Officers on the 20th November. They had before them a short Paper prepared by the P.A.Os on the need for revising the "Bolero" programme and the state of the United States forces in Great Britain. A total of 223,222 had arrived by the 7th /November

C.O.S. (42) 396(0)

(1) Out of an estimated cost of £178,000,000, over £116,000,000 was for Air Ministry contracts and nearly £6,000,000 for H.A.P. contracts.

November and 81,729 of them had re-embarked, mainly for North Africa. There were still 143,000 left in the U.K., of whom 49,000 were air force personnel.

The discussions revealed that no directive could usefully be issued because of the uncertainty prevailing as to the future direction of Anglo-American strategy. The early initial success in North Africa opened up a wealth of possibilities which would have to be examined before the Chiefs of Staff could come to any firm decisions. Consequently, the only concrete result of the Meeting was the C.O.S. approval of the establishment of the J.A.P. Committee.

C.O.S. (42)465,  
dated 21.11.42.

After the Meeting, the Chiefs of Staff received a letter from General Hartle, Deputy C.-in-C. ETOUSA, which caused a first-class sensation. The War Department, Washington, he said, had "advised that the constructional programme" in the United Kingdom "should not exceed the present indicated needs", which he interpreted as the programme for the accommodation of 427,000 U.S. troops. Any construction in excess of this force was to be done "entirely by your own labour, with your own materials, and Lend/Lease materials cannot be furnished in these instances".

The Chiefs of Staff viewed this information with concern since a reversal of a previously agreed strategy appeared to be involved, and in addition to informing the Prime Minister they cabled the

C.O.S. (W)360  
dated 23.11.42.

text to the Joint Staff Mission with the comment - "We cannot for a moment accept the abandonment of "Round-Up" which this implies....." The President and General Marshall both hastened to reassure the British authorities that there was not the slightest intention to deviate from the "Bolero" programme except for the limitations imposed by "Torch". General Hartle's letter had been unhappily phrased. The Americans had intended that steel and other constructional materials should be temporarily diverted to North Africa, and the War Department had accordingly directed that building in the U.K. should not be in excess of

current needs. The misunderstanding was thus cleared up and General Martle was removed to other fields.

It was not entirely the fault of the General, however, that this mistaken idea existed although his maladroit letter produced the storm. The impression had been gaining ground for some time that the Americans, and certain British planners, were prepared to abandon the invasion of the Continent through North West France. The General's letter was one sign of it: the proposed Bomber Offensive as a substitute was another: the numerous discussions on the possibility of invading Europe through Italy, the Balkans, or Spain was another. But in spite of the fascinating attractions of operations in the Mediterranean - which attracted him as much as they attracted others - the Prime Minister said on the 16th December - "Round-Up" was still the better strategy if only adequate forces for a successful re-entry on to the Continent could be assembled in this country".

C.O.S. (42) 198th Meeting (O).  
16.12.42.

During the month of December it was becoming clear however that the shipping position was destined to hamstring all preparations for large-scale operations from Great Britain in 1943. The J.A.P. Committee were laying bare these unpleasant facts, as has been noted. The Shipping Committee of the War Cabinet had submitted a Report confirming the War Cabinet in their request for a further allocation of 2½ million tons of U.S. shipping to maintain our import programme in 1943. Military needs could, therefore, not be satisfied by a diversion of ships from the U.K. import programme.

W.P. (42) 497 -  
3rd Report of the Shipping Committee

L.P. (42) 70th Meeting, on  
13.11.42.

The possible strategy which was discussed on the 16th December by the Prime Minister and the Chiefs of Staff was therefore conditioned by the unpleasant facts about the shipping situation. This had led the latter to the conclusion that a large-scale invasion from England was impossible in 1943. Sir Alan Brooke showed, on the other

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hand, that the defection of Italy might well be secured, in which case more relief might be afforded to Russia earlier and at less cost than by a deferred "Round-Up". The opening of the Mediterranean would be a great relief to shipping. The Prime Minister was expecting proposals from the President and, consequently, any decisions had to wait upon their receipt.

C.O.S. (42)452(0)

C.O.S. (42)203rd Meeting (0)

J.P. (42)966 dated 26.11.42.

A further Meeting of the Chiefs of Staff on the 22nd December 1942 considered the system adopted for planning "Round-Up" after a suggestion had been offered by General Eisenhower prior to his departure for North Africa that one man should be entirely responsible. A Paper had been prepared by the J.P.S. setting out their views that a fresh directive and a new code word was needed for the operation to re-enter France, but that the Combined Commanders' responsibility for planning should remain unchanged.

Regarding the Administrative Planning, the J.P.S. said that they had heard that the present organisation was cumbersome and that it contained an excessive number of Committees, but they did not feel themselves competent to recommend any improvements.

Soon after it first appeared, A.C.A.S.(P) advised C.A.S. that he thought the Paper eminently sound and timely. At a later date, on learning of the Prime Minister's Note about the possibilities of Mediterranean strategy, he added that both he and D.W.O. felt that there was an urgent case for overhauling "Round-Up" Plans. They did not want vast preparations for a massive assault on the Marshall Plan basis, but an all-out Bomber Offensive combined with the exploitation of the favourable situation in the Mediterranean. The Bomber Offensive should be followed by a flexible Plan to slip into France through a slight crust and race on to Germany. It ought to be 90 per cent an Administrative Plan and far more a vast march table or

Minute to C.A.S. movement order than an operation order.  
dated 11.12.42.

The C.A.S. liked the idea of the all-out Bomber Offensive

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but could not agree that the invasion was ever likely to be a race to Berlin. He said that in his view the German armies would retain their discipline and we should have to fight hard. Therefore, our forces must have the necessary backing.

Further speculation was ended when preparations were begun for the Casablanca Conference, which was held in January 1943.

Mobility of the Expeditionary Air Force

C.O.S.(42)266(0) Allusion has been made to the directive on administrative planning issued to the P.A.O. Committee by the Chiefs of Staff on the 11th September 1942 which contained a clause to the effect that land and air forces were to be converted to a mobile footing in stages worked out by the Commanders-in-Chief and the Service Ministries. The R.A.F. Staff at Norfolk House, in conjunction with Headquarters Fighter Command, thereupon became responsible to the Air Commander (designate) that suitable mobile units were available, and considerable pioneer work was done by the Air Ministry, and R.A.F. Commands in designing, equipping and testing vehicles and equipment which would render squadrons and their control and administrative units capable of playing their part in a war of movement.

Two sets of possible conditions had to be planned for -

- (1) The landing of follow-up forces to re-occupy areas in the event of German disintegration.
- (2) A major invasion against maximum opposition.

The former expedition would need to be comparatively small and extremely mobile and it might need to cross the Channel at short notice, but the latter could only be launched after prolonged preparations and while it might be less mobile it would be much larger and more elaborately equipped.

The general lines of the organisation of the Expeditionary Air Force were laid down by the Air Ministry proposals in

/ C.O.S.(42)351

(1) 13th December.

C.O.S.(42)351. This envisaged the formation of one or more Composite Groups which would depart from the accepted lines of Air Force organisation by function, in that such Groups might include Fighters, Light Bombers and Reconnaissance aircraft.

Those concerned at Norfolk House and Fighter Command reviewed the progress that had been made at a Conference at Fighter Command on the 28th October 1942. The Special Planning Staff, being in close touch with the Air Ministry, had for some time been working with technical and specialist officers on the design of "Continental Model Units" and, in consequence, were in a position to suggest to the Conference that the time had come when some of the new units should undergo trials.

Discussions proceeded on the composition of the first of the new R.A.F. Composite Groups. Headquarters of airfields and their squadrons, operations rooms and servicing sections were all being organised on a mobile basis during the Autumn and Winter of 1942. Amongst the exercises that were conducted at this period was one large-scale Combined Exercise known as "Spartan" for which the new "Z" R.A.F. Composite Group was formed.

"Spartan" had many lessons for the Air Force. It showed that the fringe of the subject of mobility had only just been touched: that the problems of North West Europe would differ in many respects from those discovered in the Western Desert: that from the maintenance aspect, mainly in equipment and servicing, it was essential that each airfield should be restricted to one type of aircraft. But its main result was that when it was all over (March 1943) the Air Ministry decided that "Z" Group<sup>(1)</sup> was

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(1) On the 19th March 1943 "Z" Group consisted of the following Units, all mobile:-

1 Mobile Group Headquarters	1 Mobile Operations Room Unit (MORU)
1 Mobile Air Reporting Unit (M.A.R.U.)	
4 Mobile Air Field Headquarters	2 Servicing Commandos
4 Squadrons R.A.F. Regiment	4 A.A. Flights
3 Mobile Air Stores Parks	1 Mobile Repair and Servicing Unit
1 Mobile Signals Servicing Unit	
Several Mobile Signals Units	
1 Supply and Transport Column	

not to disband but was to remain as a nucleus of No.83 (Composite) Group, itself the germ of the 2nd Tactical Air Force.

After Lt. Gen. Frederick E. Morgan had been appointed C.O.S.S.A.C. in accordance with the Casablanca decision, the C.I.G.S. announced that the re-organisation of the British Army would begin. A Field Army was disentangled from the Home Commands in such a way as to liberate an Expeditionary Force (21 Army Group). The Air Ministry was kept in close touch with this metamorphosis in all its phases because of the necessity for a parallel movement in the R.A.F. to produce a Tactical Air Force with its Composite Groups. The organisation of the Expeditionary Air Force depended to a large extent upon the way in which the Expeditionary Land Force would be organised. The changes in the R.A.F. which would be required to produce an Expeditionary Air Force capable of a tactical role had been under active discussion ever since Sir John Slessor (A.C.A.S.(P)) had produced the first proposals in July 1942. The A.O.C.-in-C. Fighter Command and the Air Ministry had accordingly studied the development of air fighting and land operations in North Africa with the object of evolving a Tactical Air Force which could give effective support to the Army and yet remain under the control of Air Force Commanders. Under the scheme sponsored by the C.A.S. the Headquarters of the British Tactical Air Force was to be formed as an off-shoot of Fighter Command, and amongst its other formations was to include two Composite Groups. Army Co-operation Command was to be absorbed in the new organisation. When the Air C.-in-C. was appointed this British Force was to be ranged alongside the U.S. Tactical Air Force under his control. (1)

C.O.S. (43)78th Meeting (O) on 16.4.43.

C.O.S. (43)224(O) dated 29.4.43, Memo by C.A.S. on "Organisation of R.A.F. for Continental Operations".

/ Modification

(1) A full account of the reorganisation of the Metropolitan Air Force is to be found in Part I, Section I, of the A.H.B. narrative entitled "Notes on the Planning and Preparation of the A.E.A.F. for the Invasion of N.W. France in June 1944" by Flt/Off Lady Freeman, M.B.E.

Modification of Planning Agencies

Modification - P.A.O. Committee

The P.A.O. Committee, although originally set up to settle administrative policy on questions arising out of the proposed invasion of Europe according to the Marshall Plan, had long since broadened its functions so as to include the oversight and co-ordination of all high-level Inter-Service administrative policy as well as those where Service questions touched the responsibility of Civil Departments. It was, consequently, not a Committee for planning the invasion of Europe so much as one for advising the Chiefs of Staff and Government Departments generally on administrative aspects of the prosecution of the war. Departments under the individual Principal Administrative Officers were, of course, engaged in detailed planning and preparation for "Round-Up" in conjunction with the Force Commanders as for all other operations. One of their most important concerns was with how and from where the broad administrative requirements arising from the plans of the Commanders were to be obtained, and they also had to consider the wider implications of the "Bolero" operation on the general administration of the United Kingdom, and to decide how the necessary re-arrangement of administrative facilities (ports, railways, etc.) was to be achieved.

Modification - Joint Administrative Planning Committee

The evolution of the Joint Movement and Transportation Committee had followed a similar course to that of the P.A.O. Committee. It was originally set up to deal with movement and transportation problems of an Inter-Service and Inter-Allied nature. With the shrinking of "Bolero" and the postponement of "Round-Up" there was no future need for the Committee, but it had been reconstituted because the P.A.O. Committee required an advisory body to examine administrative problems before these

/ matters

matters were submitted to the Principal Administrative Officers. The J.A.P. Committee thus took on a new function and had a brief burst of activity in the Winter of 1942. As it was not a Standing Committee, however, but was only called to consider questions specifically referred to it by the Principal Administrative Officers, the neglect of cross-Channel preparations (so far as administrative planning was concerned) from "Symbol" to "Trident" was reflected in the fact that no business was referred to it for examination and report.

Modification - "Bolero" Scheme

From early Autumn 1942, when the flow of American troops and material to Britain slackened off and then stopped, the "Bolero" Committee had almost ceased to function although it was always available if required. It was probably true that the functions and responsibilities of the "Bolero" Committee had changed since the Spring of 1942. Detailed arrangements with the Americans had become a matter of routine and Anglo-American co-operation had become an integral part of the machinery of each Department concerned. But the "Bolero" Committee had provided a most useful organisation for handling any difficulties which arose concerning more than one Department, and when it was necessary to co-ordinate action between various Departments or to present a joint case to Ministerial Committees. Consequently, when it was announced that a new "Bolero" programme had been approved by C.A.S. there was a general demand for the revival of the "Bolero" Committee, brought up to date to suit the revised conditions.

C.S.A. (43)5th  
Meeting on  
15.2.43.

In the new Terms of Reference it was made clear that the "Bolero" Committee was to be primarily concerned with matters of broad policy and not with detailed arrangements. The War Office was not in favour of reviving the Committee but the Admiralty, the Air Ministry, the U.S. Forces and the Civil

/ Departments

Departments concerned were all strongly in favour. The Air Ministry view was that it must continue because it was the only machinery that existed for bringing the Civil Departments and the Services together to consider these matters. It was also the one body to which the Americans could turn when they were in difficulties and were uncertain as to how these troubles could be resolved. The revised Terms of Reference of the Committee,

C.S.A. (43)10  
dated 1.3.43.

approved by the Chiefs of Staff, were:-

- "(i) To co-ordinate the policy governing plans and administrative preparations for the reception, accommodation and maintenance of U.S. Forces in the U.K. and for the development of the U.K. in accordance with the requirements of plans for the invasion of Europe.
- (ii) To provide the channel whereby problems concerning the subjects specified in Para.(i) above involving British Departments and the U.S. authorities may be resolved when difficulties arise which cannot be settled by direct discussion with the Department concerned.
- (iii) The responsibility for making and carrying out the plans and preparations will rest with the Departments concerned. Arrangements for co-ordination between Departments in regard to particular matters will be made where necessary by means of Committees dealing with particular subjects.
- (iv) The Bolero Combined Committee (London) will act under the general authority of the Principal Administrative Officers Committee to whom disputed matters of policy requiring decision or arbitration will be referred.
- (v) The Bolero Combined Committee (London) will work in close touch with the Bolero Committee, Washington. (A special series of telegrams - blacks and pinks - had been organised as a channel of direct communication between Bolero Committees, Washington and London)."

The Composition of the Committee was:-

Sir S. Findlater Stewart (Chairman)  
Major General R.M. Wootten (D.Q.M.G. (L) War Office)  
Major General R.H. Lorie (M.G.A. Home Forces)  
Captain C.F.W. Norris, R.N. (P.D. "Q" Admiralty)  
Air Vice-Marshal R.P. Musgrave Whitham (D.W.O. Air Min.)  
Sir Harold A. Wernher (C.M. & S.F., C.O.H.Q.)  
Sir Reginald Hill (Ministry of War Transport)  
Mr. T.H. Sheepshanks (Ministry of Home Security)  
U.S. Representatives.

Representatives of other Departments e.g. Ministries of Health,

/ Food

Food, etc., were called in from time to time as required. Each Department had nominated a senior official to serve as and when required on the Committee.

In spite of the new Somervell Programme, approved at "Symbol", and the re-gearing of the "Bolero" machine, there did not appear to be much prospect of a resumption of "Bolero" movements in the early Spring of 1943. At the P.A.C.

C.S.A. (43)4th Meeting (0)

Committee Meeting on the 8th February C.C.S.172 came under discussion. The Air Member for Supply and Organisation said that the U.S.A.A.F. figures given by General Somervell required further examination because they did not agree with

Marcus 926 dated 25.1.43. and Marcus 275 dated 6.2.43.

the latest estimates from Washington and they appeared to bear far too little relation to the latest estimates of U.S. aircraft it was proposed to employ in the operations against Germany based on the United Kingdom. The Air Ministry had budgeted for 250,000 U.S. air personnel, although they had frequently received lower estimates usually about 195,000 Air Corps personnel. All the labour for this programme was not yet forthcoming.

The Quartermaster-General said that no large expansion of the present War Office Building Programme was proposed owing to the labour shortage. The Fourth Sea Lord was under instructions to make all Naval preparations in readiness for "Round-Up" by the 1st July 1943. So far as the Navy was concerned there was little difference between the preparations for the different types of invasion operation. It did seem, therefore, that new instructions regarding Naval, Army or Air Force projects were premature at this stage.

A difficulty arose in the middle of February over the question of the relative priorities of Service of Supply troops over Air and Combat troops for transportation to the United Kingdom. The Joint Staff Mission said that although the

/ British

British Chiefs of Staff, backed up by the S.O.S. at ETOUSA and Washington, had, on the 31st December 1942, asked for 50,000 Engineer troops as the first instalment of any "Bolero" movement, only Air & Combat troops were being "activated" and equipped in the U.S.A. for this movement.

J.S.M.725  
dated 10.2.43.

The opinion of Headquarters, ETOUSA, was that Quartermaster, Engineer, Movements, Transportation and Signal troops were required in anticipation of expanded shipments of Medical Forces during the second and third quarters of that year. The War Office view was that priority for S.O.S. troops was still considered essential because British military and civil labour did not exist to carry out the full constructional programme.

C.S.A.(43)4(0)  
dated 14.2.43.

S.O.S. troops must arrive early to receive and prepare to issue stores required by Combat troops. The total requirement of S.O.S. troops in the first six months was 130,000; of these 50,000 were required in the first three months.

The matter was dealt with by the Chiefs of Staff who, after discussing the problem with General Andrews on the 17th February and later with the Principal Administrative Officers, decided to accord priority to U.S. Air Forces personnel over S.O.S. troops with Combat troops third. Despite all the arrangements there was still no resumption of U.S. troop movements across the North Atlantic for well over a month after that episode.

C.O.S.(W)492  
dated 24.2.43.

#### Dissolution of The "Round-Up" Administrative Planning Staff

The R.A.P. Central Committee and Sections set up in May 1942 had, in seven months, done a great deal of work that was of permanent value, in that provisioning and other preliminary tasks had been started on a properly co-ordinated Inter-Service and Inter-Allied basis. The main Committee held its 15th and last Meeting on the 4th January 1943 and decided that until the new directive on Administrative Planning had been received no good

/ purpose

purpose would be served by further meetings. In any case, the statesmen and soldiers at "Symbol" were soon to agree to the abandonment of "Round-Up" and, consequently, the main reason d'etre of the R.A.P. Staff had gone. Several of the Sections continued their work because they co-ordinated the detailed planning that was being done by the Ministries and the Staffs of the Combined Commanders (including ETOUSA), much of which planning was, of necessity, concerned with experiment, development, specifications, production, provisioning and organising exercises. The Sections themselves, as such, did no detailed planning, but as they consisted of the accredited representatives of the Staffs responsible for planning they acted as most valuable co-ordinating agencies in which agreement could be reached on controversial matters.

P A R T II

PART II.

IX. GRAND STRATEGY BEFORE "OVERLORD"

From "Trident" to "Quadrant" - May to August 1943.

No outstanding departures from the expected lines of Allied strategy were decided at the Washington Conference of May 1943. ("Trident"). The Allied leaders met after the successes in Egypt and Libya and in French North Africa but before the final crushing of resistance in Tunisia. By the middle of May, too, the Russians had shown in addition to their known powers of resistance and recuperation, an unexpected offensive power as they pushed the Germans back in a sustained effort beginning at Stalingrad with the onset of Winter.

The essential strategy decided at "Trident" was a continuation of the Casablanca policy of operating in the Mediterranean because it was there that the comparatively small forces of the Western Allies could produce the maximum effect. It was obviously desirable to exploit to the utmost our considerable successes in that theatre. The shipping shortage prevented large "Bolero" forces being built up in the U.K. as a substitute for "Round-Up". It was concluded, therefore, that a real effort should be made to knock Italy out of the war. Sicily was to be invaded in July if an earlier landing was found impossible and the armies were to pass on to Italy as soon afterwards as practicable.

Air operations from the U.K. were to concentrate on attacking Germany by day and by night. The U.S. Air Force was to be built up (Operation "Sickle") as quickly as possible so as to supplement the heavy attacks of the R.A.F. on Germany's Air Force, its industry, communications, and war-making power generally. The R.A.F. Expansion Scheme was to proceed with all speed. The role of the air forces in the U-boat war was given a special prominence

/because

because it was recognised that unless shipping losses could be cut down we should be unable to mount a great land and air offensive in the west.

In issuing their directive to the U.S. VIIIth Air Force and British Bomber Command the Combined Chiefs of Staff defined the new operation (code name "Pointblank") as "the progressive dislocation of the German military, economic and industrial system, the disruption of vital elements of lines of communication and the material reduction of the German air combat strength by the successful prosecution of the Combined Bomber offensive from all bases".

The demands of other theatres, the unwillingness of the Americans to send troops to Britain until we were committed to a definite date for the invasion of France, and the shipping bottleneck had combined to prevent any build up of U.S. Ground troops in the U.K. by the Summer of 1943. On the other hand, the United States Air Force was gradually being built up so that by the end of June 1943 out of 180,700 Americans in Britain 118,700 were U.S.A.A.F. personnel.

The process of disentangling a Field Army from the British Home Commands had recently begun, but only six or seven Divisions were operationally fit in June. The Allies were therefore unable to undertake any large-scale invasion of Western Europe unless German power began to collapse. Consequently, the instructions to C.O.S.S.A.C. were confirmed and his energies were directed to preparing a bluff on the grand scale rather than a real invasion.

C.O.S.S.A.C.'s deception scheme ("Cockade") was prepared in three parts. Its object was to pin down considerable German forces in the West so as to afford the maximum relief to the Eastern and Mediterranean theatres. It was to begin with an amphibious feint ("Starkey") against the Pas de Calais which, apart from drawing German

/troops

troops to the area, was meant to force the G.A.F. to engage in intensive fighting during the second week of September. A purely deceptive operation ("Wadham") to give the impression that large-scale American landings were to be made in Brittany later in September was to follow, and a third phase ("Tindall") was planned to threaten an invasion of Norway in November.

"Starkey" was to culminate in an air battle, and to some extent was regarded as a rehearsal for the air operations of an actual assault. To the Air Force, if not to the Army and Navy, this was a real battle and great preparations had to be made by Fighter Command and by the new Headquarters of 2nd Tactical Air Force formed in June. The Air C.-in-C. designate of the combined expeditionary air forces (Air Marshal Sir Trafford Leigh Mallory) was empowered by the C.C.S. to make decisions without prejudice to the eventual appointment of an Allied Air Commander at the end of June. The climax of Operation "Starkey" was timed to take place just after the Quebec meetings but before the Staffs had returned from the meetings at Washington which followed those at Quebec. The G.A.F. was not deceived by "Starkey" because battleships and U.S. Heavy Bombers were withheld, and thus the feint was robbed of all realism. The remainder of the scheme was also emasculated to such an extent that few hopes could be entertained of its success.

C.O.S.(43)  
326(O)  
d. 21.6.43.

Apart from planning these operations C.O.S.S.A.C. had prepared two Outline Plans to meet conditions stipulated by his directive and elaborated at "Trident", i.e. a sudden disintegration of German power in 1943 ("Rankin") and the necessity for a full scale landing in May 1944 ("Overlord"). Both plans were presented by General Morgan at Quebec, although "Overlord" was the only one to be approved owing to pressure of work.

See Pages

From "Quadrant" to "Sextant" - August to November, 1943.

Until "Quadrant" C.O.S.S.A.G. had been working under the handicap of having to produce too many diverse plans viz:

- (a) "Cockade". Operations in Pas de Calais, Brittany and Norway in 1943.
- (b) "Rankin". An emergency invasion if Germany collapsed in 1943.
- (c) "Overlord". Full-scale assault in 1944.

The decisions taken at Quebec enabled him to concentrate attention upon one area - Normandy - for the 1944 operation, although he had also to ensure that plans were prepared for "Rankin" conditions in case such an emergency arose.

Immediately on the conclusion of the Quebec meetings an emergency did arise, in such a way as to demonstrate how necessary it was to hold forces in readiness to take advantage of such an opportunity. This was the collapse of Mussolini's regime and the Badoglio surrender. Without a blow being struck on the mainland, Italy was out of the war if terms of surrender could be agreed and forces made available to enforce them with sufficient secrecy and speed. Mr. Churchill and President Roosevelt met in Washington in early September and decided to negotiate with Badoglio and to occupy key points in Italy before the enemy could restore the position. Unfortunately, the German reaction was most speedy and vigorous, and it is a matter of history that the Allied failure to turn the situation to full account resulted in another eighteen months of exhausting warfare in the Italian peninsula.

As at "Trident" so at "Quadrant" the Chiefs of Staff had forecasts prepared of the forces that would be available to the Supreme Commander in Western Europe on the 1st May 1944 and month by month before that date.

On the 9th June 1943 the Chiefs of Staff were able to tell C.O.S.S.A.C. that as a result of the deliberations at "Trident" he would have up to thirty Divisions, together with 7,302 United States aircraft and 4,075 R.A.F. aircraft ready by the target date. The "Quadrant" figures were less optimistic than those produced in May and June, but C.O.S.S.A.C. was given to understand that there would be about three quarters of a million United States troops available at the end of the year and another half a million by May 1944 with an approximately equal number of British troops.

#### Strategy after "Sextant"

Allied strategy for 1944 was settled when the President and the Prime Minister met at Cairo in late November 1943 ("Sextant"), where Chiang Kai Shek was also present, and then went on to Teheran where the Anglo-American Statesmen met Stalin ("Eureka"). At these Conferences it was decided that "Overlord" was to be the main Anglo-American operation for 1944. Stalin signified his approval of the target date, the scale of the operations and the expected rate of progress, and promised that the Russians would undertake a simultaneous offensive through Poland. He insisted, and the President and Prime Minister agreed, that a Supreme Commander should be appointed at an early date to take charge of plans and preparations for the invasion, and he was also strongly in favour of the projected landing in the South of France ("Anvil") which was planned to coincide with "Overlord".

The Allied Air Strategy agreed at "Sextant" followed established lines by approving the continuance of a Combined Bomber Offensive on an intensified scale. It was agreed that "Pointblank" which aimed at reducing the German air power - especially German fighter strength - and enemy

War making capacity generally, was an essential prerequisite to "Overlord". But it was also recognised that as D-Day approached the whole of the available air power in the U.K. should be employed in a concerted effort to create the conditions essential to a successful assault.

Since May 1943 the First Canadian and Second British Armies and Headquarters 21 Army Group had taken definite shape. The Second Tactical Air Force and its Composite Groups were being formed in the Summer. At "Trident" the Combined Chiefs of Staff had approved the employment of some 112 U.S. Groups (7,300 aircraft) organised under an American Tactical Air Force, as well as in the 8th Air Force, and since then a continuous stream of aircraft and personnel had been crossing the Atlantic. The 9th U.S.A.A.F. was established in England in September, and Headquarters Allied Expeditionary Air Force was established two months later. Ground, Air and Naval Staffs joined together at Headquarters 21 Army Group to begin detailed planning a fortnight before the end of 1943, and General Montgomery was ordered home from Italy, to command 21 Army Group. By the New Year of 1944, it was plain that the die was cast. The Combined Bomber Offensive was seriously undermining the strength of the enemy and gave him no rest by day or by night. The Russian offensive was making steady inroads into German power in the East: The invasion of the Italian Peninsula had begun. The sinews of war were being built up in the United Kingdom. Southern England became a restricted area. Vast constructional programmes were rapidly nearing completion, and the great camps were beginning to hum with life.

Early in the year General Eisenhower set up his Headquarters as Supreme Allied Commander, and gathered

/around

around him Staffs of many talents and of all the Services. Elaborate exercises were undertaken to simulate war conditions; battle training, combined manoeuvres, Commando courses, amphibious trials, and in fact all the new technique of combined operations and mobile warfare were practised during the opening months of the year. At the beginning of April, Navy, Army and Air Forces began moving to their final stations. The Air Forces, which had never lost contact with the enemy, had opened the battle months before the assault across the Channel. During the last days of May and the first days of June, Allied air operations rose in scale and intensity to reach a climax as the task forces assaulted the beaches of Normandy.

X. ADMINISTRATIVE PLANNING UNDER C.O.S.S.A.C.

Organisation of Administrative Branch of H.Q., C.O.S.S.A.C.

Lieutenant-General F.E. Morgan began his work as Chief of Staff to the Supreme Allied Commander at the beginning of April 1943, although his directive from the C.C.S. was not finalised until the 25th April. Under this directive he was to prepare plans for an elaborate camouflage and deception scheme to pin the enemy in the West ("Cockade"), including one air feint to bring on an air battle in 1943 ("Starkey"). He was also to prepare for a return to the Continent at any time if German resistance weakened ("Rankin"), as well as for a full-scale assault against the Continent as early as possible in 1944 ("Overlord").

C.O.S.(43)215(O)  
dated 26.4.43.

Under him General Morgan had four Principal Staff Officers, each of whom headed a Branch of the Anglo-American Planning Staff (Naval, Ground, Air and Administrative Branches). It had been impressed upon General Morgan that as the main operation - "Overlord" - might not take place for some time he was to exercise the utmost economy of staff and wherever possible he was to take over officers already on Norfolk House Planning Staffs. It was in this way that the R.A.F. Staff Norfolk House under Air-Vice-Marshal Graham became R.A.F. Branch C.O.S.S.A.C.

Major-General Brownjohn, Principal Staff Officer, Administrative Branch of C.O.S.S.A.C., was entrusted with the task of re-organising the system of Administrative Planning so as to satisfy the criticism that up to that time there had been "an excessive number of Committees" and that the system had appeared "unduly cumbersome". The scheme that he evolved came in for further critical examination before it was modified to the satisfaction of all concerned and was put up to the Chiefs of Staff for approval.

C.S.A.(42)19,  
dated 15.5.43.

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Under his scheme, Major-General Brownjohn was responsible (conjointly with the Head of the U.S. Section where United States operations were concerned) to C.O.S.S.A.C. and through him to the P.A.O. Committee for the general direction and co-ordination of the Administrative Planning for Cross-Channel operations. He had thus to keep in close touch with the Departments responsible for co-ordinating planning in the Ministries and EMOUSA, and was to report monthly to the Principal Administrative Officers. The R.A.P. Staff with its forty Committees was abolished, but the Principal Administrative Officers kept some of its most important Committees in being, responsible to them but under the general direction of C.O.S.S.A.C. The position at Headquarters C.O.S.S.A.C. was complicated by the fact that the Navy, Army and Air Branches had Administrative Sections which together formed the Administrative Branch, the fourth Branch of C.O.S.S.A.C. Senior Administrative Officers of each Section were responsible to the Principal Staff Officers of their own Branches of C.O.S.S.A.C. Headquarters that the Administrative Planning met the operational requirements of their Service, and Senior Administrative Officers of Air and Naval Sections were responsible also to their respective Force Commanders. Finally, all three Administrative Heads were also empowered to deal direct with the Air Member for Supply and Organisation, the Fourth Sea Lord and Quartermaster-General respectively. The resulting arrangement lacked a simple and direct chain of Command but it did mean that a few people combined in themselves the functions and responsibilities previously discharged by many individuals and bodies. There remained a certain amount of divided responsibility, but this could not be avoided because it was recognised that the initial function of C.O.S.S.A.C. was to co-ordinate, and that after C.O.S.S.A.C.'s Staff had been planning on the Supreme Commander's level many of the same

people would hive off when the stage of Outline Planning had been completed. Thereupon they would become the Staffs of

A.M.S.O. Folder,  
Cross-Channel  
Operations, Encl. 20  
Letter from Air  
Marshal T. Leigh-  
Mallory to A.M.S.O.  
dated 18.5.43.

Force Commanders for detailed planning. The attached Figure No..... shows the machinery in diagrammatic form.

In this way it was at first understood that it was the responsibility of R.A.F., C.O.S.S.A.C. to do the Air Planning on the Supreme Commander's level, i.e. to produce the Outline Plan: thereupon, while a small Section remained as the Air Staff of the Supreme Commander, the majority would become the Staff of the Air C.-in-C. to prepare detailed plans and to see that the plans of subordinate forces were co-ordinated. It was the responsibility of the Air Ministry to provide the means whereby those plans were to be implemented - D.W.O. co-ordinating the Administrative Planning while executive action was taken by D. of O. When plans had been prepared the procedure was for D.W.O. to approve them and then issue Administrative Directives to D. of O. who was responsible for all the executive action required. (1)

Three weeks later, two modifications were made in this scheme. It was arranged between C.A.S., A.O.C.-in-C. Fighter Command and C.O.S.S.A.C. that R.A.F. C.O.S.S.A.C. should be the Staff of the Allied Air C.-in-C. and not of the Supreme Commander. Secondly, the A.O.A. Fighter Command assumed responsibility for British Administrative Planning at A.E.A.F. Headquarters level and thus became responsible for co-ordinating the Administrative Planning of the 2nd Tactical Air Force and Air Defence of Great Britain to be formed later. The formation of A.E.A.F. Headquarters, though implicit in the scheme, was deferred for some time.

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(1) A.M.S.O. Folder Cross-Channel Operations, Enclosure 28, Paper by D.W.O. on "Responsibilities for R.A.F. Administrative Preparations for a Return to the Continent", 25th May 1943; Enclosure 29, Letter from D.W.O. to Air Marshal T. Leigh-Mallory.

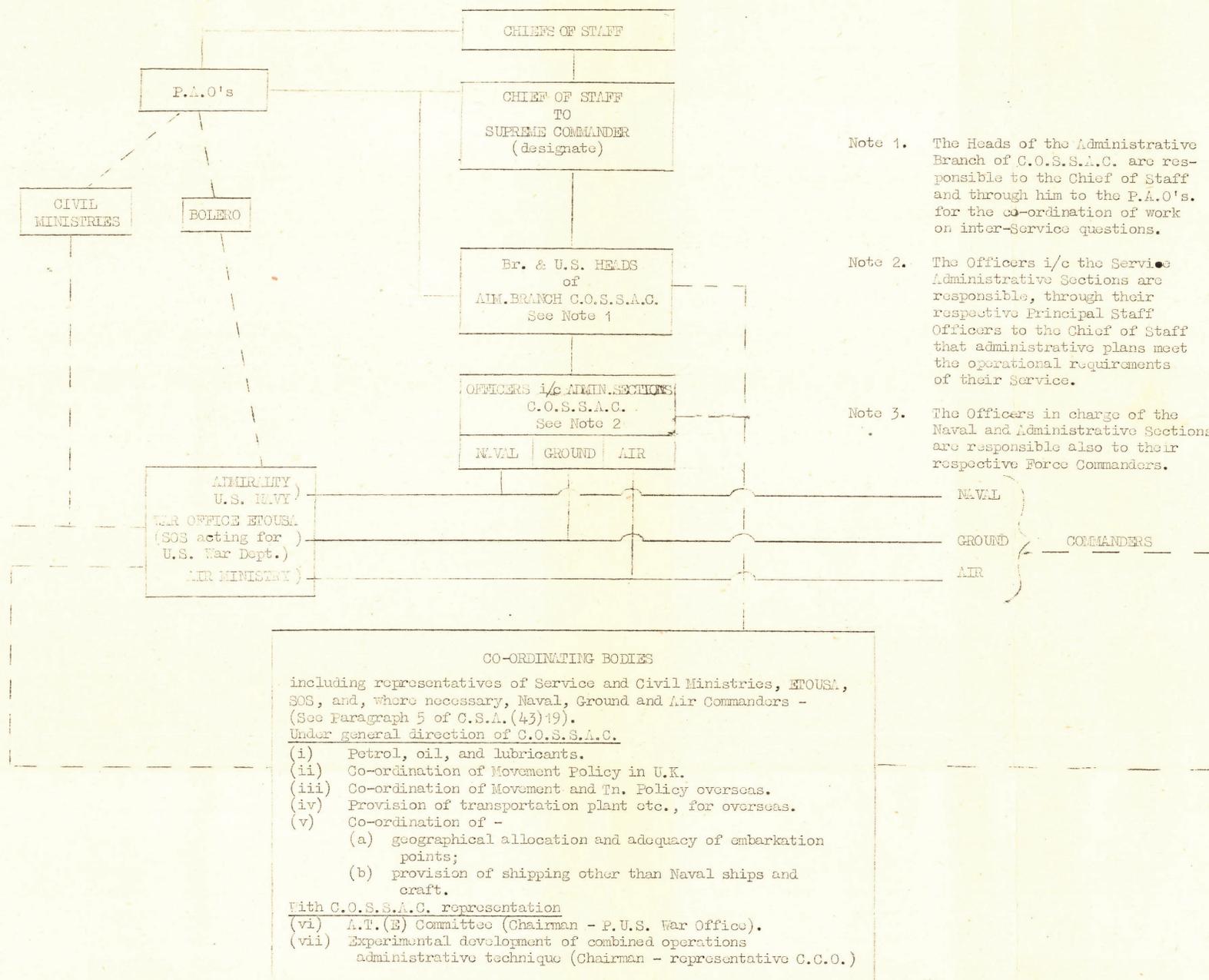
The Headquarters was represented by a nucleus Staff under the A.O.C.-in-C. Fighter Command at Kestrel Grove, but this Staff functioned as a separate entity although all executive action was taken through Fighter Command and the Air Ministry. Thus the Air sections of C.O.S.S.A.C.'s original Outline Plan for "Overlord" produced in July 1943 and approved at Quadrant in August, and the Overall Air Plan and A.E.A.F. Administrative Plan were produced, in the main, by the same Staffs under the direction of Air Marshal T. Leigh-Mallory.

C.O.S.S.A.C. Committees and their work.

When the organisation for Administrative Planning had become stabilised, Major-General Brownjohn decided that the best method to ensure that all interested parties would be kept in the picture would be to hold at intervals Co-ordinating Conferences at which British and American representatives of Force Commanders and Service Ministries (and other Ministries or bodies interested) could meet the Staff of C.O.S.S.A.C. The primary object, Brownjohn said at the first Meeting, was so that he could describe plans under consideration by C.O.S.S.A.C. to obtain the advice of the Ministries during the Outline Planning stage, to enable the administrative implications of those plans to be considered, and to enable advance preparations to be put in hand. He explained that the old system of co-ordinating plans through R.A.P. Committees had become too cumbersome and would not be revived, but that it had been decided that a few R.A.P. Sections could continue under the immediate direction of C.O.S.S.A.C. although responsible to the P.A.O. Committee. The matters dealt with by these Committees were petrol, oil and lubricants, movement in the U.K., embarkation facilities, movement and transportation overseas, and transportation plant for overseas, together with the provision of certain shipping and embarkation points. It subsequently became apparent that a similar Committee to deal with Cross-Channel movement from embarkation to disembarkation

/was

## MACHINERY FOR ADMINISTRATIVE PLANNING



Note 1. The Heads of the Administrative Branch of C.O.S.S.A.C. are responsible to the Chief of Staff and through him to the P.A.O.'s for the co-ordination of work on inter-Service questions.

Note 2. The Officers i/c the Service Administrative Sections are responsible, through their respective Principal Staff Officers to the Chief of Staff that administrative plans meet the operational requirements of their Service.

Note 3. The Officers in charge of the Naval and Administrative Sections are responsible also to their respective Force Commanders.

was required, but its establishment was delayed for some time owing to the slowness with which the Naval Staff was appointed to C.O.S.S.A.C. and the objections of the Royal Navy to naval forces being controlled by a Committee. After it had been made clear that there was no suggestion that a Committee should have executive control of ships but that it was necessary to establish a concrete common policy and procedure by which the Army (responsible for embarking the forces) and the Navy (responsible for its safe crossing) would co-operate, the opposition was less marked, but the Committee was not formed until August.

#### P.O.L. Requirements.

Work was begun on co-ordinating the requirements of P.O.L. by setting up the C.O.S.S.A.C. Petrol Committee on the 3rd June, 1943, with Brigadier Buckle (C.O.S.S.A.C.) as Chairman and with representatives of R.A.F. C.O.S.S.A.C., Air Ministry, War Office, Admiralty and U.S. Forces as permanent members. The Chairman watched the development of plans and any reactions on petrol provision problems, and co-opted representatives from D. Movement, War Office, or from the Ministry of War Transport when their presence was required.

#### Movement in the U.K.

This Committee was set up on the 16th June, 1943, to evolve a concrete system of movement and movement control that would bring personnel, vehicles and stores to their points of embarkation as nearly as possible in accord with the operational and administrative requirements of the Force Commanders. It selected and supervised the preparation of the assembly and transit areas in the rear of the points of embarkation, and co-ordinated all the necessary

/administration

administration by the Commands concerned. It also saw to the provision and training of the Movement Control Staffs, and to the provision and clearance inland of casualties, prisoners of war, and returned stores. Its activities covered virtually the whole southern part of the country, from East Anglia to South Wales. It was, of necessity, in close and constant touch with the C.O.S.S.A.C. Embarkation Facilities Committee and did a great deal of work in the early days of its existence because it might have been necessary to invade the Continent at two months' notice in the event of the disintegration of German power taking place. Its Chairman was Brigadier Napier, D.D.Mov.P., War Office.

Embarkation Facilities.

In May, 1942, Brigadier Sir H.A. Wernher of C.O.H.Q. was appointed by the Prime Minister as Co-ordinator Ministries and Service Facilities, with the responsibility of preparing facilities for the launching of the assault and of maintaining supplies and reinforcements during the earlier phases of "a major combined operation against Northern France". The time between when the assault force was about to embark until when sufficient French ports had been captured and put into operation was the time with which he was chiefly to be concerned. He therefore co-ordinated the work that was carried out in Southern England on:-

- (a) Road and rail systems related to the embarkation operation.
- (b) Loading and other harbour facilities for the operation.
- (c) Direct embarkation of military vehicles into landing craft.
- (d) Assembly and modification of ships for the cross-Channel journey.
- (e) Facilities for discharging stores and M/T on the French coast.

(f) Provision of a labour force for the above tasks.

(g) Questions relating to priority requirements.

When the R.A.P. Staff was set up the C.M. & S.F. became the Convener of Sections W, X, Y and Z, which covered the same ground. On Headquarters C.O.S.S.A.C. being set up Sir Harold Wernher became the Chairman of the Embarkation and Facilities Committee to carry on the same task. His, and the Committee's responsibility, was therefore to obtain the agreement of naval and military authorities on the selection of sites for embarkation hards, and arranging for work to be put in hand by the Admiralty on the seaward side and by the War Office and Ministry of War Transport on the ports and their approaches. They arranged the allocation of port facilities as between Service and Civil requirements, and the provision of dock labour. They also arranged for railway facilities, Merchant Service crews, lighting, bunkering and defence of docks, hards, etc. Any requirements of specialised shipping, such as dredgers, port repair ships, hospital carriers, etc., were arranged through this Committee, as were also the requirements for Red Ensign shipping or modified ships for cross-Channel operations.

By the Summer of 1943 the programme of work for "Round-up" in South East England had been completed, but the new Plan for "Overlord" envisaged a denser concentration of forces in the South-West than had been planned for "Round-Up", and in consequence work was begun on facilities west of the Isle of Wight. As the work of the Embarkation Facilities Committee and the Movement (U.K.) Committee was in a measure interdependent, close collaboration was essential, and this was done by appointing certain officers to both Committees. Reconnaissances regarding the provision of loading berths took place during the last week of

/June

June 1943, and work undertaken in consequence was completed by the end of the year. With the enlargement of the "Overlord" Plan in 1944, further construction had to be undertaken in the Western (American) area.

Transportation Plant (Overseas).

This Committee was set up to co-ordinate the United States and British requirements for the provision, restoration and maintenance of transportation facilities overseas. It included:-

- (a) correlating and advising Supply Services of all combined United States and British requirements of transportation plant, equipment and stores;
- (b) collecting, correlating and disseminating information regarding progress, development, provision and storage of all transportation requirements;
- (c) issuing Progress Reports and recommending production priority on those items which were behind schedule.

As a common user of all these facilities the Air Force Commander and the Air Ministry were represented when the arrangements were made, but as the air interest was a comparatively small one most of the executive work was the responsibility of other and more closely interested bodies.

The Integration of Operational and  
\* Administrative Planning.

The P.A.O. Committee and its satellites had been set up because the Combined Anglo-American Plans for the invasion of Europe were on such an unprecedented scale that it was necessary to co-ordinate all preparations to secure the maximum economy and efficiency. The P.A.O. Committee represented the three Fighting Services and certain Civil Departments that would be affected by the preparations. Certain high level Advisory Committees were set up to help the P.A.O.'s. Of these, the Joint Movement and Transportation

/Committee,

Committee, originally established to advise the Chiefs of Staff and Principal Administrative Officers on transportation aspects of strategic planning - particularly such aspects of the "Bolero" operation - had been reconstituted as a Joint Administrative Planning Committee. This was because after a lapse of six months the Principal Administrative Officers had felt a need for a Joint Committee that could examine the broad administrative implications of certain operational plans and make agreed recommendations to them.

A further six months had revealed some weaknesses in this arrangement. The Committee being an ad hoc body only functioned when specified questions were referred to it, and consequently several matters were still coming before the P.A.O. Committee without first having been subjected to examination by a joint body which could reconcile any possible conflicts between the views of the different Services. It was felt by the administrative staffs that there was a lack of machinery for dealing with administrative problems on an Inter-Service basis at lower levels than the P.A.O. Committee, and also that the Joint Planning Staff lacked an administrative element within itself to enable the administrative aspects of joint planning to be dealt with concurrently and in relation to the operational aspects.

This problem of the proper integration of operational and administrative planning emerged directly out of the need for executive administrative action to be taken on C.O.S.S.A.C.'s plans for "Overlord". The first discussions were thus on the relationship between C.O.S.S.A.C. and the Executive Planning Section of the Joint Planning Staff. The undesirability of A.M.S.O., the Q.M.G., and the Civil Departments not being represented on the Executive Planning Section was soon recognised. The latter would be taking action to mount operations like "Overlord", and in so doing

might well be making decisions regardless of their administrative implications on the Services or on the civil life of the country.

J.P. (43) 243 (E)  
(3rd Revised  
Draft) dated  
19.8.43.

In August, 1943, the J.P.S. had proposed that the E.P.S. should begin to perform its proper functions with regard to mounting "Overlord" and, in consequence, that it should take over from C.O.S.S.A.C. all business requiring executive action and all problems requiring co-ordination between Headquarters C.O.S.S.A.C. and the Ministries, wherever adequate machinery for this purpose did not already exist. To ensure that the E.P.S. were well informed, the Principal Administrative Officers were to keep the E.P.S. in touch with all the business transacted by the P.A.O. Committee, and the C.O.S.S.A.C. Committees were to do the same. In order to enlarge their organisation the J.P.S. proposed that the Commanding General ETOUSA be asked to nominate representatives to the E.P.S.

C.S.A. (43)  
30th Meeting,  
Minutes  
dated 17.8.43.

When the proposal to re-organise the E.P.S. was discussed by the P.A.O. Committee, Sir Findlater Stewart pointed out that even the enlarged E.P.S. would not be competent to deal with Civil Departments on many non-military questions that arose from mounting cross-Channel operations without civil representation on the Section. The Service Principal Administrative Officers thought that unless and until the Administrative Staffs were represented on the E.P.S. or in the Joint Planning organisation the latter would not be able to deal adequately with the administrative requirements of future large-scale operations. Their Terms of Reference were drawn up in 1940 before the P.A.O. Committee came into existence. The overwhelming importance of administrative planning in the new large-scale operations was only just beginning to be recognised, and this seemed to present a good opportunity to strengthen the whole Joint Planning

/organisation.

organisation. Accordingly the P.A.O. Committee asked the J.A.P. Committee to consider the proposals, in consultation with the J.P.S., and submit agreed recommendations for their approval and for that of the Chiefs of Staff.

J.P. (43) 302  
(Final)

C.O.S. (43)  
226th Meeting  
(O) 25.9.43.

There was some delay because the Directors of Plans and their Staffs were still at "Quadrant", but the problem was settled in part when the Chiefs of Staff Committee accepted a J.P. Paper defining the relationship with C.O.S.S.A.C. and strengthening the E.P.S. It was agreed, however, that although the E.P.S. should gradually take over some of the work being done by C.O.S.S.A.C.'s staff as the planning reached the stage where co-ordinated executive action was required, the C.O.S.S.A.C. Co-ordinating Committees should continue the work so long as there was need for them and provided they maintained close liaison with the E.P.S.

This arrangement was satisfactory in that it associated C.O.S.S.A.C., the U.S. forces, and the civil authorities with the mounting of cross-Channel operations by the E.P.S. But it did not satisfy the desire of the Administrative Planners to share in the preparation of joint plans at all stages. The Secretary of the J.P.S. informed the P.A.O. Committee that "it was not the intention of the Directors of Plans to proceed any further with the idea of formal joint consultation between the P.A.O. Committee, the J.A.P. Committee and themselves, though they would be glad to consider any proposals the P.A.O.'s would like to put forward. The Air Ministry had taken the lead in these proposals from the outset. On the 3rd September, D.W.O. (Air Commodore A.C. Sanderson) produced a draft entitled "Organisation of the J.P.S." which suggested that administrative responsibility should be introduced at all levels for joint planning. The principle that operational and administrative planning were complementary and equally

A.M.S.O's P.A.O.  
Folder -  
"Relationship  
between C.O.S.S.A.C.  
and J.P.S."  
Encl. 13  
dated 2.10.43.

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essential had long been accepted in the Services and the Joint Planning Organisation was out of date in this respect. But General Ismay represented that any proposals for changes in the J.P.S. should be made by the Directors of Plans and it was some time before he could be persuaded to countenance the requirements put forward by the Principal Administrative Officers.

However, the matter was not re-opened until the 17th November, when D.W.O. submitted a revised version of his Paper to the J.A.P. Committee. It pointed out that the Joint Planning Organisation had been designed for functioning at a time when we were on the defensive and when we only commanded small material resources. Now that the situation had changed our planning agencies should also be adapted to suit. The Air Ministry proposed the appointment of Directors of Administrative Planning to assist the Directors of Plans in the Joint Planning Staff, and that an Administrative Planning Section should be added to the three existing divisions of the Staff, viz: Strategic, Future and Executive Planning Sections.

Some time was spent in considering this Paper at the Admiralty and the War Office, but the reaction of the two Departments was almost completely favourable, with the result that the P.A.O. Committee accepted the Air Ministry recommendations in principle. In order that the proposals should come from the J.P.S. as well as the P.A.Os, the Directors of Plans were induced to father the reforms, so that two agreed Papers, one written by the J.P.S. and the other by the Principal Administrative Officers were placed before the C.O.S. Committee on the 26th January, 1944.

Each Service Department was to appoint a Director of Administrative Planning to bear the same relation to the Principal Administrative Officers as the Director of Plans

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J.A.P. (43) (0),  
dated 17.12.43.  
Annexe B.

C.S.A. (43)  
42nd Meeting,  
dated 20.12.43.

J.P. (44) 7 (Final)  
and C.S.A. (44) 3 =  
C.O.S. (44) 14  
dated 19.1.44.

to the Chiefs of Staff, and the Joint Planning Secretariat would be at their service; but where administrative plans formed an essential integral part of operational plans they had no collective responsibility to the P.A.O. Committee except when their advice had been disregarded by the Directors of Plans. In order that the Directors of Administrative Planning should continue to give realistic administrative advice they were to continue in posts which would enable them to keep in touch with the work of their Departments.

The C.O.S. Committee approved the proposals, and thus came into existence the Joint Planning Organisation which was responsible for advising the Chiefs of Staff (and the P.A.Os.) during the final period of preparations for "Overlord".

XI. ADMINISTRATIVE ARRANGEMENTS FOR THE U.S.A.A.F.

The Shipping Programme, 1943/44

It was decided at "Trident" to begin building up U.S. and British land forces in the U.K. for employment in an offensive role against Germany. These might be used either for a major invasion operation - known as "Roundhammer"<sup>1</sup> until the end of May when "Overlord" was adopted as the new code word - or for a smaller operation if German forces were suddenly withdrawn from the occupied territories. As neither of these two operations seemed a likely possibility, and as there were still certain demands for troops in Africa and for Sicily and Italy, it was decided to continue the Casablanca policy of building up air forces for the Combined Bomber Offensive from the U.K. at an accelerated pace for a time and then to begin trooping to Britain on a large scale. Aircraft were flown over in larger numbers, and although shipping had been the main restrictive factor in Allied build-up before "Trident" the position soon became so much easier after the Summer of 1943 that ocean tonnage was no longer the limiting factor in the planning of cross-Channel operations.

The following troop transportation forecast was produced at "Trident" to serve as a basis for planning the second great Transatlantic movement of U.S. troops:-

/ "BOLERO"

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1. "Roundhammer" was used during the discussions at the "Trident" Conference as a convenient code-name to denote the invasion of N.W. Europe in 1944. As such, it would be the successor to "Round-up" and "Sledgehammer". On the 26th of May, 1943, the code-name "Overlord" was substituted for "Roundhammer".

"BOLERO"/"SICKLE" BUILD-UP - "TRIDENT" PROGRAMME

Month 1943	Air Force	Ground	Total	Cumulative Total in U.K.
end June	118,000	62,700	-	180,700
July	13,800	8,200	22,000	202,700
August	16,200	108,000	139,200	341,900
September	22,000	124,000	144,000	456,300
October	31,000	60,200	92,000	548,300
November	32,700	103,300	136,000	684,300
December	43,700	81,000	124,000	808,300
1944				
January	39,000	69,000	108,000	916,300
February	42,500	85,500	128,000	1,044,300
March	21,200	125,800	147,000	1,191,300
April	12,300	141,700	154,000	1,345,300
Grand Total	393,200	797,100	1,190,300	1,345,300

It will be noticed that the intention was to continue using all available shipping capacity until August to build up the 8th Air Force so that the strategic bombing offensive against Germany could be maintained during the good weather and the long days. By that time, there were twice as many U.S.A.A.F. personnel in this country as there were U.S. ground troops. At the conclusion of the programme in May, 1944, it was intended that there should be twice as many ground troops as air force personnel.

With regard to aircraft, the "Trident" forecast was as follows:-

1943	Aircraft	1944	Aircraft
June	1,527		
July	1,742	January	6,066
August	2,054	February	6,898
September	2,445	March	7,302
October	2,998	April	7,456
November	3,516	May	7,792
December	4,244		

The actual arrival of U.S.A.A.F. personnel took place in a steady flow from May, 1943, until D-Day and bore a close resemblance to the "Trident" forecast as amended at "Quadrant". A graph at Figure No. 3 illustrates the smoothness of this movement.

Constructional Requirements in the United Kingdom

The decision at "Trident" to build up powerful air forces at the earliest date possible so as to mount Operation "Pointblank" (the air operation to weaken Germany) created administrative problems in the United Kingdom which were peculiarly difficult at the time. The greatest of these difficulties was that of securing the labour necessary to meet all demands.

With the shelving of the Marshall Plan certain projects were cut while others were completed more slowly. The works undertaken for the U.S. Air Force by the Air Ministry envisaged accommodation for rather more than 200,000 personnel and from 3,500 - 4,000 aircraft by April 1944, and it was confidently expected that although the programme had been slowed down the projects would be completed by the Air Ministry as soon as they would be required by the Americans. The aim of the Air Ministry had consistently been to keep construction in phase with anticipated arrivals. The "Trident" decision to increase the U.S. Air Forces to 380,000 men and 7,300 aircraft in March and over 430,000 men with 7,800 aircraft in May, coming as it did at a time when the R.A.F. was also in the throes of a great expansion scheme, would mean a much greater labour requirement.

On the 28th April 1943 General Andrews, Commanding General, ETOUSA, wrote to General Ismay asking for further allocations for constructional labour to ensure that accommodation would be available for U.S.A.A.F. Groups due to arrive in the near future. He calculated that the number of extra labourers required would rise from approximately

C./U.S.A./7,  
Volume II -  
"Move to U.S.  
Troops",  
Enclosure 346.

10,000 in May to about 71,000 in July, about a half of whom would be employed on projects for the Air Force with others unloading cargo at U.K. ports or furnishing indirect labour to the U.S. forces.

The manpower position in 1943 was particularly strained because of numerous other preparations for "Overlord" and because of the calling-up of further classes, especially builders, to the armed forces. Representations were accordingly made in Washington to the effect that the early despatch of U.S. Labour Battalions would greatly ease our problems, and in consequence the C.C.S. decided on the 26th May 1943 that S.O.S. Troops were to receive priority on Atlantic Transports.

Meanwhile, General Andrews' request was passed to the Chairman of the "Bolero" Committee who referred it to the Ministry of Supply. Mr. Oliver Lyttleton called a Meeting, attended by Sir Christopher Courtney (A.M.S.O.), Lord Portal (Minister of Works), Mr. Philip Reed (Deputy to Mr. Averell Harriman), General Lee (S.O.S. ETOUSA), and others, on the 28th May, to see what could be done to solve the problem at this end. The Air Member for Supply and Organisation stated that 17,000 extra labourers would be required to complete the programme of aerodromes for the U.S. Forces by the new dates requested. Other large numbers of labourers were required to construct personnel accommodation and depots. As there was not sufficient information available to make it clear whether some of this work was not already provided for under the Air Ministry programme, it was decided to make further enquiries on this point before taking action.

The Washington "Bolero" Committee was revived to take charge of plans for the despatch of the United States Forces, and the 1942 Planning Agencies resumed their old functions.

J.S.M. 983,  
d. 15.6.43.

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The London "Bolero" Committee had already been revived but never became active, and meetings were only held at rare intervals. All the work in Britain had become routine in character and was handled by ETOUSA in direct contact with the War Office, the Air Ministry, the Admiralty, Ministry of War Transport and other Departments concerned.

C.O.S. (43)361(0)  
d. 6.7.43.

In due course another letter from ETOUSA called attention to the urgency of accelerating the building programmes of the War Office and the Air Ministry in view of the earlier arrivals of U.S. Air Forces. The larger U.S. Air Forces approved at "Trident" needed a probable increase of 21 airfields apart from the other accommodation that would be required. Reference was made to the matter at a Cabinet Meeting on the 9th July, when the P.A.O. Committee was instructed to see whether it was practicable to bring over American S.O.S. Troops for this purpose now that the C.C.S. had recognised the urgency of sending S.O.S. Troops to the U.K. before Combat Troops. On the 2nd August, C.I.G.S. heard from ETOUSA that action had been taken to make available half of the U.S. personnel shipping capacity (50,000) on the North Atlantic to S.O.S. Troops, while the other half was reserved for 8th Air Force personnel.

So far as the Air Ministry programme was concerned, the constructional programme had been recast to meet the "Trident" requirements, but all the additional labour asked for had not been allocated by the time that the Quebec Conference had started. The lag was due in part to the fact that the Air Ministry had been inclined to discount U.S. estimates, as experience had shown in the past that they had been invariably optimistic. It was also due to the understandable reluctance to take over land in the summertime before crops had been harvested. The chief reason for the delay, however, was the time required to translate paper plans into actual construction.

At "Quadrant" the U.S. authorities were so disturbed about the situation that Lieutenant-General Somervell brought the matter to the notice of Mr. Churchill, and two days later General Marshall put the U.S. request for additional help in

C.O.S. (43) 559(0) writing. He asked for the provision of 20,000 British  
d.4.9.43. labourers (12,500 for Air Force projects) until such time as U.S. Service of Supply Troops could replace them.

C.O.S. (43) 224th  
Meeting (0) on  
23.9.43.

This was referred by the Chiefs of Staff to the P.A.O. Committee who proceeded to examine the U.S. requirement in the light of information furnished by the Departments concerned - in particular by the Air Ministry, the War Office and ETOUSA. In a Note to the Committee, Sir Christopher Courtney explained the time lag between the U.S. statement of 8th Air Force needs and the commencement of constructional work, but stated that the Air Ministry had asked for extra labour for October, November, and December. These additions would mean that the Air Ministry would control a total civilian labour force of 100,000 men for October, 85,000 for November, and 75,000 for December, the numbers diminishing progressively as works were completed. If the numbers were forthcoming, this should enable the arrears of work to be done for both the U.S.A.A.F. and the R.A.F., and he did not anticipate that the slight adjustment of target forces made at Quebec would materially affect the issue.

Admin.Plans,  
Portfolio  
W.O.4.101/1,  
"P.A.O.Commit-  
tee Papers",  
Enclosures  
42A and B.

In reply to a request for an up-to-date statement as regards their labour requirements, ETOUSA reported that General Marshall's figures referred to the position at the 31st July. On the 31st August 47,381 British civilians were working on U.S. projects (36,708 under the Air Ministry), an increase of 3,381 on the July figure. Taking into account the expected help from U.S. Service Troops ETOUSA furnished a revised estimate of the extra British labour requirement during the next five months for their constructional programme in the U.K. A peak of 14,861 men would be

/required

required in October, but by the end of the year it was expected that the emergency would have passed and the need for constructional labour would diminish rapidly thereafter. Subsequent detailed scrutiny of all requirements brought to light the possibility of certain reductions in these figures, but on the other hand there were additional calls on manpower for indirect labour. On the 9th October, ETOUSA produced a new phased constructional programme based on General Marshall's Memorandum, which enabled the Air Ministry to draw up a consolidated programme of total labour requirements for the 8th Air Force from August 1943 to June 1944. This so nearly met the U.S. needs that it was accepted by ETOUSA.

Admin. Plans  
Folder  
W.O.4.101/2,  
Enclosure 48.

C.S.A. (43) 27(0),  
d. 25.10.43.

In their report to the Chiefs of Staff Committee, therefore, the P.A.O. Committee were able to say that provided the Air Ministry's full labour requirement was met they expected to complete all contracts. So far, the amount of labour provided had fallen about 10 per cent short of that requested. With regard to port labour, an accelerated shipping programme had begun but some help had been received from U.S. Port Labour Battalions. Some British dockers would be required to unload our quota of ships. On balance, the report concluded, we had either met our commitments or been able to satisfy the U.S. authorities that we would do so.

The demands for so much direct and indirect labour on account of the American build-up, combined with the prospect of other large commitments for constructional labour in the Autumn and Winter,<sup>1</sup> had led the Ministry of Production to propose sending a telegram to Washington asking for 20,000 more U.S. S.O.S. Troops to be sent to the U.K. When the P.A.O. Committee were asked by the Chiefs of Staff for their views on this proposal, the former advised against sending

C.O.S. (43) 257th  
Meeting (0).

/such

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1. A request had been made for 15,000 to 20,000 men to construct concrete caissons to be used in artificial harbours, and it was also proposed to call up 19,000 building operatives in the Winter.

such a request. 15,000 S.O.S. Troops had been asked for in July, and up to the 26th of October 1943 only 6,000 had been sent. They considered it unlikely that more could come, and even if they did they would not be in time to be of much service. By January the Air Ministry and U.S.A.A.F. building programmes would have contracted and considerable numbers of labourers would be freed.

C.S.A. (43) 28(0)  
28.10.43 - "U.S.

Forces in the U.K. There the matter rested, and the telegram was not sent - Constructional Programme - to the President. Considerable difficulties resulting from Report to the Chiefs of Staff the rapid build-up of the U.S. Air Forces were overcome by Committee". allocations of airfields and living accommodation not always ideal but the Air Ministry programme never fell very far behind schedule. Certain additional works were undertaken, such as a pipeline from Thameshaven to American airfields in the Thetford area of East Anglia, but these were also completed with little delay.

It was hoped that Groups and Squadrons would be able to take up their final locations before the end of the Winter so that they could settle in before intensive operations began. This was found impossible because the accommodation on many of the A.L.G's was not suitable for Winter quarters and much supplementary work was done before the assault was opened.

XII. AERODROME CONSTRUCTION OVERSEAS - POLICY

One remedy for the limitations imposed on offensive air operations by reason of the short range and endurance of high performance fighter types was the provision of an organisation, to go into action immediately behind the front line, constructing new airfields or repairing captured ones. Right from the commencement of planning, this aspect of increasing the range of fighter aircraft had been in the minds of the R.A.F. Special Planning Staff for "Round-up", although it had the disadvantage of being something for use in the distant future. The degree of urgency for such an organisation was also doubtful as long as the exact area of invasion was uncertain. If we were going to invade in the area which was the general favourite, i.e. the Pas de Calais, the number of aerodromes existing in that countryside was considered already sufficient, and the amount of work required to repair airfields made unserviceable by the enemy would hardly be as great as that to construct entirely new ones on virgin sites.

Discussions took place in the Summer and Autumn of 1942 between G.H.Q. Home Forces, ETOUSA, Air Ministry and the Special Planning Staff, on the airfield requirements of the Air Forces that would be employed for "Round-Up". The results of their collaboration were that minimum specifications for landing grounds were laid down in July 1942. The S.P.S. also indicated the approximate number of airfields during the phases of the operation as then planned on the basis of an average of  $2\frac{1}{2}$  squadrons per aerodrome. These arrangements were reviewed from time to time up to the Summer of 1944, by which time changes in the order of battle and in the types of aircraft and their performance necessitated modifications in both specifications of airfields and their numbers.

The construction of airfields overseas was one of the

/ tasks

File A.E.A.F./  
S.12, Encl.11B,  
Minutes of  
Meeting held  
on the 14th  
July.

tasks normally allotted to the Army, and arrangements were made by G.H.Q. Home Forces for the organisation of five Royal Engineer Aerodrome Construction Groups, whose function would be the rapid construction of airfields in the forward areas overseas. The emphasis was on rapid construction, and for that reason it was agreed that these Groups would cross the Channel at the beginning of the operation and go into action as soon as the ground had been cleared of enemy troops. The specifications laid down for airfields were based on those for A.L.G.'s in Southern England: they were not intended as bases so much as landing strips, on most of which fuel and ammunition facilities were to be provided to squadrons using them. At a later date servicing facilities up to Daily Inspection standard were to be provided on these forward airfields.

The agreed Plan provided for all five Royal Engineer Aerodrome Construction Groups to be formed and trained by Home Forces and to be ready by February 1943, although only one Group was to be formed and trained at a time. A month before operations commenced the five Groups were to be mobilised for refresher courses and were then to be ready for moving overseas at the earliest date possible after the assault had been launched. At the end of August 1942 it was already appreciated in Planning circles that "Round-Up" was very unlikely to take place and, in consequence, the Army did not set about the business of forming the Aerodrome Construction Groups for operations in Western Europe with any sense of urgency. Despite the plan to have five Groups ready by February, and despite the pleas for hurry from the Special Planning Staff only two had been formed, equipped and trained by December 1942. One other was formed and another was in process of being formed: it was hoped that three more would be formed by the end of February 1943.

All the arrangements made by the "Round-Up" Planners

/ together

File A.E.A.F./  
M.S.12, Encl.16A  
Letter from Home  
Forces to War  
Office of  
30.8.42.

together with a further proposal that the Air Ministry might help by releasing certain R.A.F. Airfield Construction Units for this purpose overseas, were put up by Home Forces for the approval of the War Office. The Army Council wrote to the Air Council endorsing the suggested amendments and requesting R.A.F. agreement to the use of R.A.F. Airfield Construction Units, not only as proposed but in all other theatres of war. The main grounds of this enlarged proposal were that the machinery employed was imported from the U.S.A., and as quotas would not improve, the maximum use should be made of the limited resources available. The Air Ministry refused to accept the liability to share in the responsibility for constructing new airfields in all theatres of war, but offered to consider each individual case as it arose.

This proposal had once again raised a question which had already been decided before the war, i.e. the responsibility for airfield construction overseas. It also raised the question of the channel of command for engineer work of -

- (a) Army Aerodrome Construction Groups; and
- (b) R.A.F. Airfield Construction Units.

Discussions between the Air Ministry and the War Office dragged on for many months before it was agreed that the rapid construction of airfields, and the provision and transport to the theatre of operations, of all airfield construction stores was an Army responsibility. The channel of command where Royal Engineer Aerodrome Construction Groups were doing such work was to be an Army one, but a Special Engineer Staff Officer should be appointed at R.A.F. Headquarters to advise R.A.F. Commanders and to obtain from the R.A.F. their requirements of numbers, types and siting on airfields. They would then organise, under the Senior Army Engineer Officer, the work of the Royal Engineers Aerodrome Construction Groups.

/ With

With regard to the particular case of operations in Western Europe, the Air Ministry agreed in principle to the employment of certain R.A.F. Airfield Construction Units to assist Royal Engineer Construction Groups provided that command for engineer work done by R.A.F. Construction Units should be through the R.A.F. Works channel.

A different complexion was put on the matter when the "Overlord" Plan was produced in the Summer of 1943 and approved at the Quadrant Conference in August. This was because of the choice of Normandy as the invasion area. Caen was roughly 110 miles from the nearest airfields in Southern England, and although the Allies would be in a better position as regards long-range fighters than they would have been for "Round-Up", it was still true that because of the extra distance, Allied air forces would be fighting in less advantageous circumstances during the assault than they would have been had the Pas de Calais beaches been chosen. This disadvantage would for some time grow with every mile of the advance, because the number of existing aerodromes in the vicinity where operations were planned to develop was far smaller than the number that would have been available further north. Under Cossac's Plan for "Overlord", therefore, there was a larger requirement for the rapid construction of new aerodromes than there had been under the "Round-Up" Plan. More Construction Groups would be required, and thus the Planners turned their thoughts to augmenting the Army Airfield Construction resources with Units until then under the control of the Air Ministry.

Under the "Overlord" Outline Plan the minimum requirement for airfields was as follows:-

D + 3	-	2	airfields
D + 8	-	8	"
D + 14	-	14	"
D + 24	-	27	"

The possibility of constructing 27 airfields in 24 days appeared

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A.E.A.F. Air  
and Admin. Plans,  
O.R.B., Appendix  
37/43.

to the C.A.S. to be unlikely and, in consequence, a Paper on "Rapid Airfield Construction in Operation 'Overlord'" was produced by the Operations Branch of Cossac on the 28th August 1943. Experience in Exercised "Jantzen" and "Frontenac" and in Operation "Husky" was quoted to show that one Airfield Construction Group should be able to complete a two-strip airfield within 4 days. It was calculated that a United States Engineer Aviation Battalion should do so in 5 days. It was therefore possible for 18 airfields to be completed in 14 days by the six British and one Canadian Airfield Construction Groups, and 12 airfields by the 24 United States Engineer Aviation Battalions, with 3 additional Airborne Engineer Aviation Battalions to help. Taking into account the existence of 18 airfields - the majority unserviceable - in the area contemplated, and the fact that much of the terrain was suitable for rapid construction, the Planning Staff considered that there were good grounds for expecting the full number to be forthcoming provided every effort was made beforehand to reduce the amount of work to be done, and especially the amount of stores to be transported.

This Paper did not dispose of all the doubts, however, the tonnage of stores required for airfield construction was very large indeed, it amounted to two-thirds of the total engineer stores to be landed for all purposes in the early phases of the operation. Interruptions to the programme, due to a late start or to the weather or to unforeseen contingencies, did not appear to be adequately allowed for, and in consequence there was a general feeling that all the airfield building resources at our command should be mobilised for this purpose.

After some experience of the construction of airfields in overseas theatres, however, 21st Army Group came to the conclusion that the original Home Forces suggestion that there should be separate channels of command when both Army

and Air Force Construction Units were employed upon this work was not a practical one under operational conditions and considered that R.A.F. Units should come under the Chief Engineer, 21 Army Group through a Royal Engineer and not through an R.A.F. Works channel. This the Air Ministry was unwilling to accept. During the Autumn of 1943 the Army reached the conclusion that in the Western European theatre the matter should be settled by the Supreme Commander and the Commander-in-Chief 21 Army Group, and their corresponding A.O.C's-in-C. acting in conjunction.

Efforts were made at meetings between representatives of Air Ministry, 21 Army Group, Headquarters A.E.A.F. and Cossac, to reach agreement on this question, but the Works Branch of Air Ministry continued to maintain that R.A.F. Airfield Construction Units in the Base and L. of C. area should carry out their work as self-contained R.A.F. Works organisations responsible direct to the Chief Engineer, 21 Army Group.

The point of view of the Air Ministry was explained in detail by D.G.O. (Air Vice-Marshal Pirie) to R.A.F. Cossac (Group Captain Trinder, Admin Plans) when he said that the Army must be educated in the vital importance of airfields and the implications of the constructional task involved in their provision. They seemed to regard building airfields as a sideline to be undertaken at leisure and by unskilled Royal Engineer Units, and consequently the Air Ministry felt that it would be better to have an R.A.F. Airfield Construction Service. This had the practical disadvantage of duplicating the authorities responsible for engineer work. Accordingly, during this war there could be no question of a change in the Army responsibility. But the Engineer-in-Chief, Supreme Headquarters, should attach an officer to Headquarters A.E.A.F. to co-ordinate all airfield construction activities; T.A.F.,

/ and

Army Council  
Letter dated  
28.10.43.

Ninth Air Force, and the Composite Groups, should also have Engineer Officers with the same role. An R.A.F. officer should remain with each Royal Engineer Construction Group for liaison duties. If the Air C.-in-C. and the C.-in-C. 21 Army Group would agree to this then an approach could be made to the War Office.

On the 12th October Group Captain Trinder replied to the D.G.O. to say that most of the points mentioned had been covered by arrangements made at H.Q. Cossac. The Chief Engineer (Airfields) at Supreme Command and at 21 Army Group would act as Staff Officers to the Air C.-in-C., A.E.A.F. and to A.O.C. 2nd T.A.F. respectively. The Deputy Chief Engineer (Airfields), 21 Army Group controlled the Royal Engineer Construction Groups, and would control R.A.F. Construction Wings allocated for the operation.

On the 18th January the Senior Engineer at H.Q. Cossac (Major-General Hughes), conscious of the urgent need to finalise these arrangements, recapitulated the whole story to the Air C.-in-C. A.E.A.F., asking him to intervene with the Air Ministry so as to secure the aid of R.A.F. Construction Wings to work on the Continent. Air Chief Marshal Leigh-Mallory accordingly wrote to D.G.O., Air Ministry, asking for a definite assurance that one R.A.F. formation would be available for airfield construction in the forward area with the Army, and four others in the Base and L. of C. area. As the conditions visualised in the original invasion plan would be unlikely to apply under the "Overlord" Plan, he wished it to be understood that Construction Units might be required to augment Army resources in the forward area as well as to improve airfields in the rear<sup>1</sup>. The R.A.F. Construction Units would be under the operational control of the Royal

A.E.A.F. Air and  
Admin. Plans,  
O.R.B. Appendix  
41.

ibid. Appendix  
42.

/ Engineers

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1. It was explained at a later date that heavy transport aircraft might be required to land near the forward troops.

Engineers but administered by No.85 Group R.A.F.

Air and Admin.  
Plans, O.R.B.  
Appendix 43,  
dated 12.2.44.

A.M.S.O. himself replied that this proposal "threw a spanner into an organisation that had been agreed for a long time past". He was willing for the transfer of the Construction Wings to A.E.A.F. but they would not be available soon- probably not until some months after the assault. He could not agree to the employment of the four non-mobile Airfield Construction Wings in the Forward area because of -

- (1) the long-standing agreement with the Army;
- (2) these units were the only formations skilled in constructing the more elaborate airfield facilities;
- (3) they were not trained for rapid construction;
- (4) they had no military training.

He would, however, agree to their use in the L. of C. and Base areas if under an R.A.F. Chief Engineer, and he agreed to their administration by No. 85 Group.

This did not meet with the approval of the Air C.-in-C. nor with that of the Supreme Commander because it cut across the principle that there could be only one control in a given theatre of operations. and a reply to that effect was sent from A.E.A.F. on the 17th February. Air Chief Marshal Leigh-Mallory accepted the fact that the Construction Wings would not be able to cross the Channel at an early date, although he did not believe that they need be held back as an insurance against the enemy bombing our airfields. He now stated that there was no intention of using any but the one Mobile Construction Wing in the Forward area; the four Airfield Construction Wings which were not organised on a mobile basis were to be employed in the L. of C. and Base area in the task of improving the facilities on existing airfields. Apart from pointing out that he agreed with the Army that R.A.F. officers of the Airfield Construction Service should not be in independent control of this work in the

/ L. of C.

L. of C. and Base area, he also pointed out that the Army felt that the shortage of R.E. Airfield Construction Groups - there were still only five in existence four months before D-Day - was largely due to the fact that for the last eighteen months practically all the available heavy earth-moving machinery had been allocated to the R.A.F. on account of their vast airfield programme in England.

This was the basis on which the matter was settled, and the agreed division of responsibility was set out in the A.E.A.F. Administrative Plan.

On the 1st March 1944 A.H.S.O. held a meeting, attended by Air Chief Marshal Leigh-Mallory, Major-General Hughes (Chief Engineer, S.H.A.E.F.), Air Vice-Marshal Pirie (D.G.O.), D.W.O., and Air Commodore Trinder (A.E.A.F. Admin Plans) at which final agreement was reached. The static R.A.F. Construction Wings were placed under the Royal Engineer Director of Works L. of C. who controlled them through an R.A.F. Airfield Engineer. They were administered by 85 Group. The Mobile Wing was placed under the operational control of 21 Army Group and was administered by Headquarters, 2nd T.A.F.

XIII      MAINTENANCE OF FORCES - INCLUDING AIR FORCES -  
OVERSEAS

The lines upon which the Administrative Planners were working were indicated by the effort to surmount the most difficult of all the administrative problems, i.e. that of maintenance. The principle had, of course, long been established that the broad maintenance organisation for the Expeditionary Force Overseas was an Army responsibility and that an R.A.F. Supply Organisation should be grafted on where necessary. It was appreciated after Dieppe that the prospects of securing good ports in an undamaged state in the early stages of the operation was an extremely remote one unless internal collapse forced a rapid German withdrawal. On the other hand, the problem of landing sufficient tonnage of stores on beaches and continuing to maintain a force of several Divisions across such beaches was a formidable one. It involved the problem of unloading shipping and landing stores, the provision of sheltered anchorages, piers, berths and equipment, storage points ashore, and clearance of heavy tonnages through beach exits.

C.O.S.S.A.C. Administrative Staff undertook a survey of port capacity in the assault areas similar to that made by the R.A.P. Staff, and sent in a Report to the P.A.O. Committee asking that a re-examination of all means of improving damaged ports and of improvising berths and piers be made.

C.S.A. (43) 15(0)  
d. 26.6.43.

These problems had been under active consideration for some time at C.O. H.Q. and were dealt with by a Conference at Largo at the end of June 1943. It was concluded that if established ports could not be captured intact at the outset, artificial ports on lines suggested by the Director of Miscellaneous Weapons in collaboration with D. Transportation (War Office) must be established. To enable this possibility to be explored, the P.A.O. Committee were requested by the

/Quartermaster-General.

Quartermaster-General to appoint one man to be responsible for considering this matter, in conjunction with the U.S.

C.S.A. (43) 16(0)  
d. 2.7.43.

authorities. The P.A.O. Committee thereupon recommended to the Chiefs of Staff that Sir Harold Wernher (C.M. & S.F.) be entrusted with this task. The responsibilities of the Admiralty, the War Office, and the United States authorities for providing facilities remained, but Sir Harold Wernher was appointed to the Staff of C.O.S.S.A.C. to ensure that the Supreme Commander's requirements in connection with ports and anchorages on the Continent were adequately co-ordinated and presented and he was authorised to make direct contact with Ministries so that he could supervise the progress of the supply of material and stores.

"Mulberries" and "Gooseberries"

General Morgan himself attended the P.A.O. Committee Meetings on the 5th and 12th July and there said that to obtain port capacity necessary for "Overlord" he had come to the conclusion that two artificial ports would be essential. One of these would supply the British forces, the other the American forces. The task of putting this in hand was one for an organiser not a technician. Admiral Pegram (4th Sea Lord) thought that it was essentially a naval responsibility and said that the Director of Miscellaneous Weapons and the Controller of the Admiralty had been working on this problem for some time. The P.A.O. Committee agreed to request the Admiralty to accept the responsibility for providing the equipment and for undertaking research on this subject. At their 119th Meeting on the 29th July 1943 the Chiefs of Staff approved the division of the responsibility for the development of ports, sheltered anchorages, port and landing facilities on the Continent as follows:-

- (1) The Admiralty for the provision of sheltered anchorages whenever floating equipment or the placing of block ships is the method adopted for the provision of such

/anchorages

anchorage and clearance of Channel and anchorages in all ports.

- (2) The War Office for the development of all other port and landing facilities.

The subject was then studied, both by these Departments and by the U.S. authorities, while experiments were conducted here, in Canada, and in the United States to determine the best type of breakwater. Among the projects were floating Lilos, air bubble breakwaters, ships or hulks, and concrete caissons.

C.C.S. (307)1  
d. 26.8.43

The Combined Administrative Committee in Washington reported in favour of concrete caissons, although conclusive evidence as to the effectiveness of the other methods was lacking.

C.C.S. 307/2  
d. 2.9.43

This Report was studied by an Anglo-American Committee (including Sir Harold Wernher) and approved, with slight modifications, at the beginning of September. The Chiefs of Staff in London agreed that reconnaissance should be undertaken to find sites that would be suitable for the construction and launching of concrete caissons, and invited C.O.S.S.A.C. to accept this responsibility. The C.C.S. decided that a suitable agency of the British Government should be designated to carry out the entire programme of constructing concrete caissons.

J.S.M. 1155,  
d. 4.9.43.

As the R.A.F. played no direct part in the planning and provision of these requirements (except that C.A.S. and A.M.S.O. bore their share of responsibility in their respective capacities as members of the Chiefs of Staff and Principal Administrative Officers Committees) it is not proposed to give a detailed account of this subject here. The story of the building of the artificial harbours is, however, an important one in its consequences; Continental land and air operations during the first ninety days of "Overlord" were nearly all nourished by supplies fed through the "Mulberries" and "Gooseberries". Consequently, it is considered that the

bare facts of these great engineering feats cannot be omitted.

C.O.S.S.A.C.'s Outline Plan for "Overlord" contained a requirement for the two artificial ports or "Mulberries" which he had discussed with the Chiefs of Staff in early July. As Brigadier Sir Harold Wernher had been appointed to the Staff of C.O.S.S.A.C. on the 13th July to ensure that the Supreme Commander's requirements in respect of ports and anchorages on the Far Shore were properly met, Sir Harold was entrusted with the co-ordination of all planning of artificial harbours and their equipment.

In addition to the two artificial harbours - "Mulberry" A for the Americans and "Mulberry" B for the British - smaller sheltered anchorages (Gooseberries) were to be created for small craft, one at each of the five main beaches. Each "Mulberry" was created from a "Gooseberry" by the sinking in position of concrete caissons ("Phoenix") and block ships to form breakwaters, inside which were miles of piers with floating pierheads ("Whale"). The breakwaters were protected on the seaward side by booms topped by A.A. platforms ("Bombardon"). There were berths for several 450 foot Liberty ships, and anchorages for still larger vessels inside the Mulberry. Steel pontoons, bolted together and fitted with outboard motors (Rhino Ferries) were used as Lighters to deal with vehicles and large loads, and amphibious Docks dealt with small loads. The beaches were also furnished with hard's for direct disembarkation from landing craft. The equipment, constructional units and the shipping was provided from both United States and British sources. The concrete caissons were British in design and construction. A labour force of 20,000 men was required during the busiest period of their construction in Winter 1943/44. They were enormous structures the majority weighing over 6,000 tons and equivalent to a five-story building 200 feet long. Nearly 150 of them were made at sites at Portsmouth, Stokes Bay

/ Alverstoke,

Alverstoke, Southampton, Hayling Island, North Point (Hants). Rainham, Tilbury and Erith. Training was carried out at Christchurch and Selsey, and training on "Bombardon" at Weymouth Bay and Ringstead. Elaborate defences were arranged, but the enemy did not appear to appreciate what was afoot and no interference with training was experienced. The Units were assembled at Dungeness and Selsey in the weeks before D-Day, movements beginning early in April. The operation of towing and sinking the units in position lasted about a fortnight, but the first "Mulberry", constructed as a "Gooseberry" at first, was ready for use on D+4. Two months later, the British "Mulberry" was handling 7,000 tons per day, i. e. as much as the capacity of a first-class port.

Petroleum Supplies for "Overlord" - Allied Policy

Most of the petroleum products consumed in Britain for the conduct of the war and for civilian needs came from U.S. sources under Lend-Lease arrangements. Supplies to the U.S. forces after their arrival in the U.K. came from the common pool and were issued to them under Lend-Lease and Reciprocal Aid arrangements. This had the advantage of making one authority - the Petroleum Board - responsible for controlling provision and consumption, and therefore facilitated the task of allocating shipping, storage capacity and distribution facilities.

In North Africa and Italy P.O.L. was shipped direct from America and was issued to the British forces by the U.S. authorities. Although specific grounds of complaint are difficult to discover, the system had apparently caused some dissatisfaction to the R.A.F. and when "Overlord" was planned the system of supplying P.O.L. to the forces on the Continent was, therefore, designed to be little more than an extension of the system working in the U.K. Britain was for this, as for other

/supplies,

A.M.S.O. Folder,  
"Petroleum Supplies to AEF",  
Encl. 2, Brief  
written by G.C.  
Stark Browne,  
DDE.10, d.  
15.4.43.

supplies, to remain the base or storage reservoir to be drawn upon as supplies were required.

As soon as SHAEF Headquarters was established and the first U.S. officers had taken up their appointments, the Army/Navy Petroleum Board, Washington, submitted recommendations to SHAEF for the co-ordination of the handling of P.O.L. for "Overlord". They proposed that after facilities on the Continent were established, petroleum supplies should be shipped from the U.S.A. direct to France consigned to SHAEF under American title. The effect of the proposal would have been to separate the supplies to the European theatre into two categories -

- (1) P.O.L. for consumption in the U.K. to cover civilian and military uses which would continue to be consigned to the British Government Agency;
- (2) Shipments to the Continent under American ownership for which SHAEF would submit demands to Washington.

A Petroleum Section (G.4) was set up in SHAEF on the 24th February 1944, and a SHAEF Staff Memo was issued to explain that its purpose was to co-ordinate and control the supply of P.O.L. to Allied forces under the Supreme Commander and to be responsible for SHAEF requirements, storage, and distribution.

Detailed proposals were made by Lieut-General Brehon Smervell, Chairman of the A.N.P.B. in a letter to SHAEF in March 1944, as a result of which Lieut-General Humphrey Gale,

A.M.S.O. Folder  
"Petroleum  
Supplies to AEF"  
Encl. 1.

Chief Administrative Officer, SHAEF, wrote to the Q.L.G. This letter was passed on to the P.A.O. Committee and in the discussions that ensued it became clear that whatever the outcome, the American proposal could not be put into operation until six or eight months after the invasion had begun, and then not for packed P.O.L. but for bulk supplies only. Although there was no great hurry to settle the question therefore, it was decided by the P.A.O. Committee, in consultation with Mr. Duke of the Ministry of Fuel and Power,

to resist the A.N.P.S. proposals.

The matter was not pursued by the Americans up to the time that the assault took place, but on the 8th June 1944 the United States Chiefs of Staff issued a Memorandum on the

C.C.S. 591,  
annexed to C.O.S.  
(44) 518(0) d.  
13.6.44.  
C.S.A. (44)

subject for discussion with the British authorities. Mr. Duke, commenting on the U.S. proposals saw no advantage to be gained by the change. For years we had been turning this country into a reservoir to feed the forces invading Europe, he said. In any case the needs of this country for petroleum would be greater than those of SHAEF and the present machinery for co-ordinating and controlling supplies would therefore be best left undisturbed.

The Air Ministry view agreed with this. A.M.S.O. was briefed by his Deputy to the effect that "the belief was held, though of course it may be wrong, that the Americans wished to have full title to the petroleum supplies on the Continent, for its political disposal value."

A.M.S.O. Folder,  
"Petroleum  
Supplies for  
AETP." Brief to  
A.M.S.O.

The F.A.O. Committee invited the J.A.P. Committee to examine the whole question, with the result that the Chiefs of Staff approved a telegram to Washington explaining the British view. This provoked a broadside from Washington speaking of the "rigidity of the distribution system in England" and "the substitution of a new, more direct, more economical, and more flexible procedure." "Planning" for and the actual execution of the new system "already has been started." It was "highly undesirable for petroleum products supplied to U.S. forces on the Continent to be obtained under reverse Lend-Lease" when three-quarters of it came from the United States in U.S. ships. They hoped that the British Chiefs of Staff would recognise the overwhelming contribution being made by the United States in petroleum supply. Their objections to a single agency in London continuing to co-ordinate all petroleum requirements

C.O.S. W.138  
29.6.44.

/were,

were, mainly, -

- (1) The application of reverse Lend-Lease.
- (2) The double handling of petroleum.
- (3) Control by British civilian agencies.

The J.A.F. Committee saw no reason to change its views on the subject despite the arguments by the Americans, except that they suggested that petroleum for U.S. forces on the Continent should be excluded from Lend-Lease accounts. The Chiefs of Staff informed Washington that they believed that the matter could best be settled by personal discussion in London, a course in which the Combined Chiefs of Staff eventually concurred. In effect, therefore, the question became one which did not affect the policy for conducting the war so much as a policy for the post-hostilities period, and petroleum supplies continued to go to the forces on the Continent under a procedure little different from that originally planned.

#### P.O.L. Supplies for the Expeditionary Air Force

The transport of P.O.L. for the R.A.F. in the field up to agreed points had always been an Army responsibility in the same way as the transport of other supplies for the R.A.F. Two factors combined during recent years to make this subject one of vital importance, viz: the size of the R.A.F. requirement due to the high consumption of P.O.L. by aircraft, and secondly the mechanisation of all modern forces. At some stages during the operation, supplies of M.T. fuel combined with aviation fuel formed approximately one-half of the total tonnages landed.

The position in Normandy was made more difficult by the fact considerable supplies of P.O.L. were required by the Allied Air Forces at a very early date if the rapidly constructed R and R strips were to be of any service. P.O.L. may be delivered in bulk or in containers, depending upon the stage that operations and the distributing organisation had developed. During the initial stages of an operation, or in areas near the

front line, containers must be used, but where sufficient storage facilities existed or could be provided, bulk supply is utilised as early as possible.

The difficulties of supplying large quantities across beaches in the phases of the operation before suitable ports were captured were considered by the Combined Commanders planning "Round-up" in 1942. The R.A.P. policy for bulk supply was to provide tankers which would discharge into prepared storage facilities, such as mobile tanks, dumb barges, or existing facilities rehabilitated. Their policy for the initial phases of the operation was to provide all P.O.L. in cased containers carried by ships and landing craft.

#### P.O.L. Containers

The R.A.F. Staff, after preliminary consideration of the question of future requirements of containers, had, in July 1942, taken the step of ordering from the Ministry of Supply twenty million Jerricans for delivery by the 31st March 1943 and a further ten million for delivery by December 1943. In order to save shipping space this order included six-and-a-half million Jerricans to cover anticipated American needs. It was soon discovered that twenty million Jerricans could not be produced in the time available, so the requirement was cut down to fifteen million assorted Jerricans, Americans (a simplified Jerrican) and drums, the latter types of can being easier to produce by diluted labour.

In August 1942 the Ministry of Supply discovered that the target of fifteen million was out of the question; shortages of labour, welding equipment, and presses would permit the production of only three million by the 31st March 1943. A month later they realised that even this estimate was too optimistic. Fortunately this

/discovery

discovery coincided in time with the decision not to embark on a large-scale invasion of Western Europe in early 1943.

The Q.M.G., fearing a continuance of this lag in production, took action in the attempt to secure a peak production of half a million a week of all types of P.O.L. containers by mid-Summer 1943. At the end of January the position was easier, and it was anticipated that there would be a stock of two-and-a-half million Jerricans and smaller accumulations of the other types of containers available at the end of March. By May 1943, six million Jerricans had been produced as a result of the timely action of the Administrative Planners in 1942. One million 40-gallon barrels - largely for aviation spirit - and seven million 4-gallon drums were also ordered by Section K of the R.A.P. Staff and by the C.O.S.S.A.C. Petrol Committee, its successor, all to be delivered by December 1943.

Long before "Overlord" was launched, lagging production had overtaken requirements, and by the time the SHAEF Petrol Committee had taken over the responsibility for co-ordinating the requirements of the Expeditionary Force there had also been considerable imports of containers from the U.S.A. The result was that there was no lack of P.O.L. containers, either of the small easily handled type for the initial phases and for the forward areas, or of the larger drums and barrels for delivery to airfields.

#### R.A.F. Container Requirements

The requirements of the R.A.F. for the initial phases of "Overlord" were worked out by the Norfolk House Staff, in conjunction with D.D.E.10 Air Ministry, both of which were represented on the Petrol Committees of the R.A.F. Staff and C.O.S.S.A.C. In January 1943 it was agreed that for the first fortnight R.A.F. requirements should be met by supplies from Jerricans but that after that period 25% of the supplies might be delivered in 4-gallon tins. This did not take

/into

into account the requirements for I.T., and it was assumed that the R.A.F. had no requirements before D + 4. In the first one-and-a-half months it was calculated that about one million Jerricans of aviation spirit and five thousand 5-gallon drums of oil would be needed by the squadrons (forty-one) which had moved over to the Continent by that time.

#### R.A.F. P.O.L. Requirements

In February 1943 planning had proceeded sufficiently far to allow the R.A.F. requirements to be calculated up to D + 41 on a tentative basis. It was considered that 9,824 tons of P.O.L. would be required for operations up to that time and that 6,455 tons should be landed for reserves. In June 1943 the daily average fuel requirements were calculated as being about 260 tons by D + 90 and about 700 tons by D + 120 when re-fuelling of light bombers would have brought about a greater increase in consumption. Requirements for the U.S.A.A.F. were planned separately.

In the Summer of 1943 when the plans for "Overlord" rendered most of the previous estimates obsolete, calculations of R.A.F. requirements from day to day were needed so that the Movement Staff could re-estimate the shipping, storage capacity, equipment and labour required for the operation. The best that could be done at that stage was to estimate that five airfields would require 80 - 100 tons of P.O.L. per day at sustained rate of effort, and 200 - 250 tons per day at maximum rate of effort.

During the Autumn and Winter, with later information about target forces, rate of build-up, and types of aircraft to be employed, greater precision was possible in the estimates. These were divided into P.O.L. for

/maintenance

maintenance and P.O.L. for reserve and were then combined with tonnages of bombs, S.A.A., R.F.'s, pyrotechnics and oxygen required by the R.A.F. into a Stores Landing Programme submitted to the Army. As an example a table sent by the R.A.F. to the Joint Syndicate producing Study No. 3 at St. Paul's School in January 1944 is appended. This was written by A.E.A.F. Admin. Plans on the 31st December 1943.

See page 181

In the Spring of 1944, while the firm policy was decided by A.E.A.F. in consultation with the Air Ministry and SHAEF, 2nd T.A.F. proceeded with the detailed planning. The agreed arrangement was that British and U.S. forces derived P.O.L. from the same source, i.e. oil stocks held by the United Kingdom Petroleum Board. The R.A.F. supply was handled by the Army, bulk supplies being delivered into airfield tankage and packed supplies to some designated point not further than 40 miles away from the R.A.F. destination. R.A.F. personnel were to be made available to assist the Army to discharge this responsibility.

To avoid supplies being held up in the U.K. while en route to A.L.G.'s in the South of England during the period prior to D-Day when great congestion of traffic was to be expected, a programme of pre-stocking airfields with fourteen days' supplies

File AEMF/MS. 826 was undertaken some weeks beforehand and reserve stocks were Encl. 47, letter D.G.E. to H.Q. built up. AEMF.

Calculations based on the "Overlord" Appreciation by C.O.S.S.A.C. in September 1943 and agreed between Air Ministry, ETOUSA, and C.O.S.S.A.C. were that packed P.O.L. would be used by air forces on the Continent for the first fortnight of "Overlord", but that after D + 14 about two-thirds of the requirement for reserves and a half of that for immediate consumption would be received in bulk on the Continent. Late in the Spring of 1944 this plan was modified. Bulk delivery of aviation fuel for the R.A.F. was planned to commence at D + 20 and a total quantity of five thousand tons was scheduled

/for

OPERATION "OVERLORD" - ROYAL AIR FORCE STORES LANDING PROGRAMME D to D + 16

DAY	AVIATION		P.O.L.		BOMBS, S.A.A., PYRO-TECHNICS AND OXYGEN.		TOTALS		REMARKS
	Maintenance	Reserve	Maintenance	Reserve	Maintenance	Reserve	Maintenance	Reserve	
D	-	-	-	-	-	-	-	-	
D + 1		85	45	63	45	148			
D + 2	85	85	70	61	155	146			1. All figures in <u>long tons</u> .
D + 3	85	30	70	47	155	77			
D + 4	85	220	79	146	164	366			2. No allowance has been included for losses.
D + 5	275	220	196	149	471	369			
D + 6	275	85	196	59	471	144			
D + 7	275	280	196	190	471	470			
D + 8	385	280	274	190	659	470			
D + 9	385	155	274	96	659	251			
D + 10	385	165	274	99	659	264			
D + 11	385	165	274	102	659	267			
D + 12	385	165	280	102	665	267			
D + 13	385	165	280	102	665	267			
D + 14	145	155	118	96	263	251			
D + 15	165	85	123	62	288	147			
D + 16	165	85	123	62	298	147			4. Requirements of S.A.A. in common use with Army <u>not included</u> ; Estimates passed to Ordnance 21 Army Group.

for shipment consigned to the R.A.F. up to D + 40. Thereafter, bulk shipments were estimated to form 55 per cent of total requirements. The importance of providing bulk fuel at the earliest possible date by the possible use of pipelines to Bolter tanks on airfields was not overlooked. New flexible tanks were designed but showed no great advantage provided mobile tankers were available on airfields. Arrangements were made for the British group of airfields in Normandy to be connected by pipelines with storage facilities at the discharging point, i.e. Port En Bessin.

All packed P.O.L. for R.A.F. use was to be supplied in Jerricans until D + 11 and in Jerricans and barrels (50 per cent of each) until D + 41. Thereafter, two-thirds was to be in barrels and the remainder in Jerricans.

AEAF/MS. 826,  
Encl. 45, letter  
D.D.E. 10 to HQ.  
A.E.A.F. d.  
12.5.44.

As a basis of comparison, the arrangements made for 9th Air Force were that all requirements for maintenance and reserve were to be supplied in Jerricans up to D + 14. Bulk supplies were to commence to reserve on D + 15 and to maintenance and reserve on D + 20, after which there would be no requirement of packed fuel although packed lubricating oil would continue until D + 41. The explanation of this is that the U.S. forces planned to make rather more use of pipelines than did the British forces.

#### "Pluto"

One of the romantic stories of the war is the story of the attempt to supply the invasion forces with P.O.L. through a "pipeline under the ocean" - the ocean in this case being the Channel.

When Lord Louis Mountbatten visited the White House in June 1942 to discuss plans for invading Europe with President Roosevelt, he mentioned experiments then taking place with the ultimate object of designing a pipe capable of carrying bulk petrol under a stretch of water. Twenty-

seven miles of hollow 2-in Transatlantic cable was in fact successfully laid from a cable-laying ship across the Bristol Channel some time later. This cable was in actual operation in April 1943 supplying 125 tons of petroleum per day from South Wales to the South-West of England.

At that time the Air Ministry was deeply interested in pipeline schemes and itself had a scheme under construction to supply airfields in East Anglia. Airfields in Southern England also made use of the elaborate network of pipelines that was being built up by the Petroleum Board to connect with Llandarcy, Avonmouth, and the Isle of Grain. The R.A.F. did not, however, share directly in the development of the "Pluto" project.

Those taking part in the experiment were the Petroleum Warfare Department (Brigadier Sir Douglas Banks), the Parliamentary Secretary for Petroleum (Mr. Geoffrey Lloyd), the Miscellaneous Weapons Department of the Admiralty, and the Experimental Department of C.O. H.Q. When the experiments had reached the stage that made it obvious that fruitful results might follow if the work was properly organised, the Q.M.G. held a meeting of the interested parties, where a division of responsibilities was agreed. The Report summarising this agreement was submitted to the I.A.O. Committee and approved.

C.S.A. (43)13(0)  
d. 7.6.43

This was passed on to the Chiefs of Staff Committee, who expressed their warm appreciation of the development work done and approved further trials. Experiments continued, and a flexible steel pipe was developed which could be laid from a large floating Conun-drum towed by ocean tugs. A small fleet was trained in the special technique, terminal points were selected in England and on the Far Shore, storage tanks were constructed, and arrangements were made for the operation of a bulk supply system capable of supplying large daily tonnages.

In addition to this system a scheme was devised for bulk

/delivery

delivery to the beach areas as soon as tanks could be landed and bolted together. The whole operation was planned in three parts -

- (a) "Tombola". This was a ship to shore supply of petrol as soon as possible after D-Day from tankers moored off beaches. They would discharge into tanks on shore or into dumb barges close inshore.
- (b) "Bambi". This was a scheme to supply up to 2,500 tons a day to Cherbourg through ten 3-in. cables or steel pipes originating in the Isle of Wight. The first cable-laying operation began on the 24th July 1944. Two cables and two pipes were actually laid before the end of the Summer but they all failed, and as by this time the German front in Normandy had collapsed the project was abandoned in favour of the original ("Round-Up") scheme, which was to cross the Channel at the narrowest point.
- (c) "Dumbo". This project was based on the original plan, when the assault was to have been in the Pas de Calais area and the whole scheme was first worked out. The British terminal was at Dungeness, where considerable storage facilities had been built and pipelines had been connected up. The planned supply in the first instance was 3,000 tons per day to Boulogne, using fifteen cables and steel pipes of 3-in. section. It was calculated that if 1,500 lbs. per square inch pressure could be maintained, "Dumbo" would deliver 180 tons per day through a 2-in. cable or 450 tons per day through a 3-in. steel pipe. The steady delivery of perhaps two or three thousand

/tons

tons per day, independent of weather conditions, appeared to be of considerable importance to the land forces, and the British and American Army Groups consequently planned pipelines along their Lines of Communication as well as "under the ocean." The R.A.F. did not plan on receiving aviation fuel through "Bambi" or "Dumbo" and were prepared to regard any supply which might be received in this way as a bonus. In fact, no aviation fuel was received through the "Pluto" scheme.

As a matter of interest, it did not begin to deliver supplies until November 1944 and then only on a reduced scale. At the beginning of December 1944, 700 tons per day were being delivered and at the end of the month 1,250 tons per day.

XIV PLANS FOR SUPPLY BY AIR AND THE  
AIR EVACUATION OF CASUALTIES

A. SUPPLY BY AIR

The military advantages of the possession of aircraft capable of quickly transporting men and supplies to points some hundreds of miles distant from main bases had been appreciated by students of the science of war for many years before 1944. Indeed, ever since the garrison of Kut el Amara and British front line troops in the Flanders mud were supplied with rations and ammunition dropped by aircraft in the war of 1914/18 there had been many examples of such operations. The Germans at Waalhaven in 1940 and in Crete in 1941 had achieved in battle what the Russians had already shown to be possible in a spectacular exercise as far back as 1936.

The allies had also had some experience of this form of operation. Dakotas and Halifaxes of No. 216 Squadron (later No. 216 Group), Transport Command had supplied the paratroops attacking Cos in September 1943, and several such operations had been undertaken in North Africa. Striking success on a larger scale was achieved in Burma by Combat Cargo Task Force, notably in the supply by air of Brigadier Wingate's troops in the Chindwin Campaign. The U.S. Forces had also carried out air supply operations, the most successful of which was in connection with the airborne operations in the Markham Valley of New Guinea.

Systematic study and experiment in Britain on the subject of the employment of aircraft in the role of transporting supplies to maintain troops was begun in conjunction with the study of airborne operations generally. When the Airborne Division was formed alongside Army Co-operation Command in 1941 it absorbed the Airborne Forces

Establishment which had come into existence a year earlier, to investigate Airborne Forces problems. In order to discharge the responsibilities laid on the R.A.F. to train aircrews for the Airborne Forces and to provide R.A.F. personnel, aircraft and equipment to work with Airborne Forces in their training and operations, No.38 Wing was also formed under Army Co-operation Command. Technical development of aircraft and equipment was put in the hands of a new Unit in M.A.P. called Airborne Forces Experimental Establishment. It was not until late in 1943, after Transport Command had been functioning for some time, that much thought was devoted to planning for supply by air in circumstances apart from Airborne Operations. By this time the experience of the Airborne Operations in "Husky" and of Supply Operations in North Africa, the Aegean and Burma, was available for study. To a lesser extent some information of U.S.A.A.F. Supply Operations in the Pacific was gradually becoming available to planners.

#### Planning for Air Supply

At the Trident Conference in May 1943 a firm decision had been arrived at to undertake a major invasion of Europe in 1944. But at that time it was not clear whether such an invasion would be undertaken in "Overlord" conditions or in those of partial or complete collapse of the enemy ("Rankin"). During the following six months many details of aircraft allocation, design and equipment were settled, and the reorganisation of the R.A.F. for "Overlord" was begun side by side with that of the Army.

The importance of Airborne Operations and of Air Transport generally to the invasion of the Continent was being studied by the R.A.F. Branch of C.O.S.S.A.C. at Norfolk House, both in connection with "Overlord" and with "Rankin". It had been appreciated that in the event of

/"Overlord"

15th January  
1942.

"Overlord" being launched the Bomber would be more important than the Transport, while for "Rankin" conditions Transport aircraft were naturally expected to play a more vital part. It was well understood that as air commitments were so heavy there would be insufficient aircraft to meet total requirements for all eventualities, and as in 1943 there did not appear to be any real hope of an early German collapse there did not seem to the R.A.F. any justification for recommending a switch from Bombers to Transport aircraft. Plans had to be prepared for either eventuality, but the plans put into actual execution were those based on the assumption that the invasion would meet stiff resistance.

Expansion of Airborne and Air Supply Resources

On the 20th September 1943 a joint War Office/Air Ministry report on the Employment of Airborne Forces was presented to the Chiefs of Staff. Based on the experience of "Husky" it made recommendations agreed by the Army and R.A.F. It was considered and approved by the Chiefs of Staff as a basis for the future guidance of the Army and the R.A.F. on the 3rd October. Its many recommendations were to the effect that the planning and execution of Airborne Operations should be the responsibility of the Air Commanders and that facilities for training should be expanded forthwith. Nevertheless, it stated that efforts should be concentrated on quality of performance rather than on producing large numbers of aircrews and paratroops. On the 28th September, with the above report before them and the lessons of "Husky" in mind, it was decided at a meeting held by A.C.A.S. (P) at the Air Ministry that No. 38 Wing should be expanded to a Group with 180 U.E. aircraft consisting of 80 Stirlings, 80 Albemarles and 20 Halifaxes. No decision was reached about the participation of other Transport aircraft in "Overlord" although the question was raised by A.M. Leigh-Mallory.

C.O.S. (43)  
552(0)

TLM/MS 150  
Encl. 54.

/In

In October, however, when C.O.S.S.A.C. (General Morgan) was in Washington, General Arnold convinced him that the "Overlord" planners were taking too conservative a view of the potentialities of Airborne Operations and of Air Supply. He pointed to the brilliant success of the Markham Valley Airborne Operations in New Guinea and persuaded General Morgan that as the Allies had achieved air superiority over North West France our aircraft might be better employed in more imaginative fashion than in the orthodox roles as proposed by Norfolk House. Under this influence C.O.S.S.A.C. wrote to Air Marshal Leigh-Mallory - "...we have blindly accepted as a fact that an aircraft allotted to Bomber Command for bombing purposes can do nothing but bomb whereas in point of fact it can do other things..... It can carry loads either of goods or of personnel....." As the planners were at that time faced by a crucial shortage of landing craft C.O.S.S.A.C. hoped that airborne lift might meet the deficiency. He requested A.M. Leigh-Mallory, therefore, to reconsider the whole question of the employment of Allied Air Forces in "Overlord" from this angle.

The C.C.S. were also so impressed by General Arnold's arguments that they directed C.O.S.S.A.C. "to plan and prepare for extended and emergency use of all types of aircraft and gliders in reinforcement and delivering supplies to the "Overlord" lodgement area and to report accordingly to them.

As A.M. Leigh-Mallory was required in Washington for consultation on other matters the Joint Staff Mission asked if he could arrive there before C.O.S.S.A.C. left. A.M. Leigh-Mallory began the first of several discussions with Generals Arnold and Morgan as soon as he landed and appears to have persuaded Morgan that it would be better to adhere to the more modest plans drawn up as a result of the joint War

/Office/

TLM/MS 150  
Encl. 56  
11.10.43

Telegram  
JSM 1272  
23.10.43

1st November  
1943

Office/Air Ministry Paper agreed by the Chiefs of Staff on the 3rd October. The R.A.F. maintained that the primary role of the Air Forces in "Overlord" was to maintain the air situation which made an amphibious assault possible. In addition they had other heavy, and possibly essential, bombardment commitments. Subsidiary roles were only possible for the Air Forces if they were successful in their main tasks, and diversion of aircraft from these might jeopardise the whole undertaking.

TLM/MS  
Encl. 67  
Para. 7  
27.10.43

C.O.S.S.A.C.'s own (Army) staff at Norfolk House had reached the same conclusion. They produced a paper which said that in view of the great difficulties of landing supplies from the air without proper airfields and in an already congested beachhead, airborne lift should only be employed for supply purposes in the event of a grave emergency such as the incidence of a spell of bad weather in the early stages. Neither the R.A.F. nor the Army Staffs of Norfolk House, therefore, favoured the diversion of large numbers of aircraft from other tasks to build up an organisation for supply by air.

File AEAF/  
MS.80/Air  
Plans  
Encl. dated  
14.12.43

After a meeting with U.S. and British Airborne Forces Staffs, Air Air Chief Marshal Leigh-Mallory wrote to the Air Ministry pointing out that Army plans required the use of far more aircraft than were known to be available for Airborne Operations. 150 Dakotas from Transport Command would be used for Airborne Operations in the Assault before reverting to their primary role, but an estimated 150 other aircraft would also be needed. In reply the Air Ministry stated that there was "no intention to divert squadrons from Bomber Command for this purpose and it is considered advisable that you should draw the Army Commander's attention to this fact before any further progress is made in the preparation of his plans" and further, that Transport Dakotas were unlikely to be available before March. This

File  
ACAS(P) 5604  
1.1.44.

/decision

decision was reinforced by a letter to Air Chief Marshals Harris and Leigh-Mallory to the effect that "when aircraft are required to supplement No. 38 Group for Airborne Forces Operations they will be drawn from Transport Command and only under pressing operational exigency from the Heavy Bomber Force. Thus some 150 Dakota aircraft have been allotted from Transport Command for operation "Overlord". It was "not intended to divert any Heavy Bomber squadrons to lift or tow airborne troops in that operation".

Tactical Air Force Air Transport Requirements

By the end of 1943 Headquarters 2nd T.A.F. felt itself in a better position to make proposals regarding probable requirements for air lift in "Overlord" or "Rankin" conditions. Their proposals covered -

- (1) Air lift of Army troops and stores to the Continent.
- (2) Air lift of T.A.F. Units and stores to the Continent.
- (3) Courier service (men and mails).
- (4) Moves on the Continent.
- (5) Lift of R.A.F. supplies to Air Stores Parks (or the Continent).
- (6) Lift of urgent Army stores to the Continent.

They suggested the establishment of -

- (a) A small Transport Command Operational Headquarters to arrange such operations under T.A.F. direction.
- (b) After the first phase, that Transport Command should operate all transport services.
- (c) The establishment of a Liaison Movement Officer at Headquarters T.A.F.
- (d) The establishment of an Air Despatch and Receipt Centre (A.D.R.U.) and signals facilities at Headquarters T.A.F.

Functions

TLM/MS  
Encl. 70  
12.11.43

Functions and Organisation of Transport Command Groups  
in Operational Theatres

File  
S. 96570/S9  
14-12-43

On the 14th December 1943 the Air Ministry defined its policy regarding the general functions and organisation of Transport Command and laid down the responsibilities of Transport Command with regard to Air Commanders-in-Chief in operational theatres. For "Overlord" purposes a Static Wing might be formed "to control such Air Transport Services as may be required by the Air Commander-in-Chief A.E.A.F." In deciding to give the direction of the operations by aircraft of Transport Groups to the Air Commanders-in-Chief, the Air Ministry (D.G.O.) said "It is difficult to draw a hard and fast line between responsibilities for the control of the Assault Phase of Airborne Operations and for the air follow-up and maintenance operations. Accordingly, where special formations exist, such as No. 38 Group in the U.K. or U.S. T.C.C. in M.A.C., the general principle will be that under the Air C.-in-C. the Headquarters of the Special Airborne Formation and the Headquarters of the Air Transport Group concerned will maintain a Combined Operations Room. Through this centre, all aircraft directly allotted to the Airborne Assault will be commanded by the Commander of the Air Assault Formation. On the other hand, all aircraft employed on normal air transport and air maintenance will be controlled by the Commander of the Air Transport Group. At the conclusion of the Air Assault all aircraft, from whatever sources, employed in the subsequent air supply and maintenance will be controlled by the Commander of the Air Transport Group".

This only accepted a situation which had already developed in Africa whereby the C.-in-C. Transport Command assumed control of all trunk routes and inter-theatre flight delivery, although in the matter of

/Transport

No.46 Group  
Unofficial  
History  
Page 8, Para. 5

Transport Support to forces in the field he was responsible only for the dissemination of a common policy throughout all theatres, for a common standard of training and, together with other replacements, for the general provisioning of the Transport Groups allotted to the theatres. The A.O.C. of each Transport Group while acting as the agent for his C.-in-C. actually worked to orders received from the Theatre Air Commander to whom he was an adviser and upon whose priorities he relied for manning, works and equipment.

#### Formation of No.46 Group

No.46 Group  
O.R.B. Org.  
Branch  
Appendix I

On the 1st January 1944 authority to form No.46 Group was received by Transport Command. Air Commodore Fiddament D.F.C., its first A.O.C., set up his Headquarters at Hatch End, Pinner, close to Headquarters, Transport Command (Harrow Wealdstone) and to Headquarters, A.E.A.F. (Stanmore). Primarily, the new Group was intended to undertake all air transport required for "Overlord", but it was understood that during the Assault Phase its resources would be employed in the airborne role; afterwards it would be mainly employed in normal transport roles, in particular upon those specified by 2nd T.A.F. quoted above. These would include providing the air lift to enable the Tactical Air Support arm to keep up with the battle and to discharge the responsibility of the R.A.F. to the Army to bring up men and urgent stores, and to evacuate casualties, selected prisoners of war, captured equipment and priority freight. Airborne Assault was an added commitment which had to be accepted, because the resources of No.38 Group were insufficient to cope with the requirements of the Joint Plan for the invasion.

The operational control of the new Group was the responsibility of the Air C.-in-C., A.E.A.F. but its

/administrative

administrative control remained with Transport Command. To assist the Air C.-in-C., A.E.A.F. in discharging his responsibility, an officer from Transport Command (W/C. Craddock-Watson) joined the staff of Headquarters, A.E.A.F. on the 1st January 1944. A fortnight later the Airborne Forces Tactical Development Unit was transferred to No.46 Group from No.38 Group and renamed the Air Transport Tactical Development Unit. This was done in order to assist in fitting Transport Command Units to their airborne role, and thus the Development Unit did not move from its location at Netheravon. Although aircraft and crews were not expected to be available until March the new Group was established with five squadrons of 30 U.E. Dakota aircraft and was allotted three airfields, viz. Blakehill Farm, Broadwell and Down Ampney. These three stations were chosen because of their proximity to the other stations participating in Airborne Operations and were well within range of Caen for Dakota-Horsa combinations. There were good rail and road facilities available at no great distance for the movement of troops, equipment, supplies and casualties.

None of the stations had been completed, but as Broadwell was the least incomplete two new Dakota squadrons (Nos.512 and 575) then forming moved there in early February. Following this, Nos.48 and 233 Squadrons (Hudsons) of Coastal Command, which had been stationed at Gibraltar and the Azores and had shared in the defeat of the U-boats in the battle of the Atlantic, were allocated to No.46 Group and brought home in toto by Transport Command. No.233 Squadron went to Blakehill Farm and No.48 Squadron to Down Ampney to re-equip with Dakotas.

The fifth squadron was No.271 Squadron, formed in 1940, and equipped with various types of civil aircraft.

In 1942 it had been re-equipped with Handley Page Harrow Bombers converted to Transports and known as Sparrows. Although it began re-equipping with Dakotas at Down Ampney in March, it retained one Flight of Sparrows and, in fact, these old aircraft continued in service evacuating casualties from the forward areas until almost the end of the North West European Campaign.

All three of No.46 Group airfields had been built for U.S. Medium Bombers, but when No.46 Group took them over although the runways and hard standings were complete, domestic storage and casualty accommodation, access roads and aprons for the loading and unloading of Transport Dakotas were all lacking. Personnel accommodation made slow progress but blister hangars were soon erected for storage purposes. It was intended to use tents for accommodating casualties for the short period between their unloading from aircraft and their loading into ambulances for transfer to special trains waiting at Shrivenham<sup>(1)</sup>. Later a number of Nissen huts were taken over instead of tents. Between April and June much work was done to widen the roads connecting the airfields with the trunk road system of the Cirencester-Swindon area as well as the roads on the stations themselves. Pierced steel planking was laid to serve for the loading aprons of the Dakotas; this material had been laid by Pioneer Corps in March to form glider marshalling areas at both ends of the main runway and had been found quite satisfactory.

#### Army/R.A.F. Responsibility for Supply by Air

Headquarters, A.E.A.F. had been in existence for four months and No.46 Group for over two months before an agreed division of responsibility for Supply by Air was laid down by the War Office and the Air Ministry jointly. In a statement circulated to all R.A.F. Commands Home and

/Overseas

(1) See Section B of this Chapter.

Overseas the Air Ministry described the organisation and procedure in force from that date for the Supply and Maintenance of Army Formations by Air. It was specifically pointed out that although the paper<sup>(1)</sup> applied primarily to operations emanating from the United Kingdom the principles and procedure would have world wide application. It should also be noticed that maintenance by air, including the possible transport of "reinforcements and the evacuation of casualties, material and selected prisoners of war where practicable" came into the agreement in addition to Supply by Air.

In brief, the Army and R.A.F. were to be jointly responsible for deciding the most important question as to when Supply and Maintenance by Air were to be undertaken. They were also to be jointly responsible for the minor task of selecting landing zones for gliders. The selection of dropping zones was to be the responsibility of the Army in consultation with attached R.A.F. Liaison Officers. The selection of airfields for this purpose was to be done by the R.A.F. in consultation with the Army, while the actual organisation for air transport (through not for ground transport and handling) was to be an exclusive responsibility of the R.A.F. Air Despatch and Reception Units (No.46 Group R.A.F.) would be located on each of the supply loading and delivery airfields to supervise the work of loading and unloading aircraft, which was to be the responsibility of Royal Army Service Corps personnel.

The R.A.F. was not primarily concerned with how and where the stores were accommodated before they arrived for sorting and loading (freight control) or where they were taken after being unloaded, except that it was in the general interests of efficiency that storage accommodation

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(1) A copy of the above Paper, entitled "Inter-Service Responsibility and Basic Ground Organisation for Supply and Maintenance of Army Formations by Air", may be found on A.E.A.F. File S.17163/Org. Encl. 2A.

should be as near as possible to Supply Loading Airfields and that the Delivery Airfields should be near to where the supplies were required. They were, however, concerned with the daily tonnages of stores considered necessary to maintain Army Formations and they were also concerned with the provisioning and type of all necessary equipment for loading, carrying and unloading or dropping of supplies carried in Transport aircraft.

The Airborne Forces Experimental Establishment - first an off-shoot of the Airborne Forces Establishment and later transferred to M.A.P. when the Airborne Division was formed - was responsible for the design and manufacture of specialised and technical R.A.F. equipment for Supply by Air as it was for Airborne Operations generally. Examples of such equipment, specified as the responsibility of the R.A.F., were parachutes, harness and containers. A great deal had to be done before packages of suitable type and size were evolved to the satisfaction both of the Army and of the R.A.F. In the Order of the 14th March 1944 it was laid down that as a guide to calculating requirements for Maintenance by Air the proportion of panniers to bomb cell containers should be as 9 is to 1 and that air landed stores should form about 50% of the whole requirements with 25% dropped by parachute and 25% free dropped.

#### Maintenance, Servicing and Recovery of Equipment

During the period of intensive training before the commencement of "Neptune", it had been necessary to employ in exercises large quantities of valuable equipment much of which was capable of being used again. This was especially true of parachutes and gliders. All through the first half of 1944 great anxiety was felt at Headquarters, A.E.A.F. about the adequacy of supplies of parachutes.

In consequence, a Parachute Maintenance and Servicing Unit was formed in No. 38 Group to undertake the servicing and  
/recovery

Ibid  
Annexure I

Ibid  
Appendix A  
Annexure II

No. 38 Group  
Org Memo  
No. 26.  
16.4.44.

recovery of all parachutes. Mobile Units sent out by the parent body were successful in recovering a large proportion of the parachutes expended during exercises in the U.K. The Army was made responsible for recovery and the R.A.F. for air transport to the U.K. of all parachutes recovered after Airborne and Supply Dropping Operations on the Continent. Parachutes recovered by D.D.Salvage (21 Army Group) were then to be passed back to M.A.P. (D.G.R.M.) which undertook repairs and repacking at Cardington.

No. 36 Group  
Org. Memo  
Nos. 22 of  
6.4.44. and  
23 of 9.4.44.

R.A.F. glider recovery, servicing and maintenance was undertaken by a Heavy Glider Servicing Unit at Netheravon formed in No. 38 Group in March from Nos. 1 and 2 Heavy Glider Maintenance Units and No. 235 Maintenance Unit, Maintenance Command. It acted for all British Gliders. Glider recovery was carried out for the most part by Mobile Units which dismantled gliders on the landing zones and transported the parts to depots for reassembly. Undamaged gliders on suitable terrain had been "picked up" by a hook and winch tackle used in conjunction with Dakota tug aircraft in the United States. This method was copied by the R.A.F. but not until the period after the assault.

In the course of planning Airborne Operations (including Supply Dropping) it was found necessary to interpose an administrative link between the Airborne Operations Planning Committee, <sup>(1)</sup> the A.E.A.F. Headquarters Air Staff and the appropriate Administrative Branches of the Air Ministry and M.A.P. This was effected by appointing an officer (Wing Commander Stones) to the Administrative Staff of Headquarters, A.E.A.F. to be /responsible

March 1944

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(1) A Joint Committee set up under the terms of C.O.S. (43) 552(0) quoted above and consisting of Commanders and Staff Officers of U.S. and British Airborne Forces and U.S. and British Air Forces.

responsible for any special R.A.F. equipment required by Nos. 38 and 46 Groups, and, in some cases, by 9th Troop Carrier Command. This officer was responsible for allocating production of common user items of equipment as between the British Groups and the U.S. Troop Carrier Command and also, under guidance from his superiors, prescribed a common equipment policy. Co-ordination of this policy with that of the Air Ministry, and executive action to give effect to it, was secured by periodical meetings called by D.Ops. (Tac) at which the War Office (D. Air), Headquarters Airborne Troops, M.A.P. (Research and Production) and Headquarters A.E.A.F. Staffs were represented.

Equipment was received by Maintenance Command and stored under suitable conditions by No. 7 M.U., Quedgeley (No. 40 Group). The most important items, including about 30,000 parachutes for Supply Dropping and 15,000 for Paratrooping were stored in heated accommodation to guard against damp and rot.

S.H.A.E.F. and A.E.A.F. Planning for Supply by Air - "CATOR"

So far as the British Army and the R.A.F. were concerned their respective responsibilities for Supply by Air, the procedure to be adopted by both, and the ground organisation that they were to build up, were prescribed by the joint pronouncement of the 14th March. It remained for S.H.A.E.F. to instruct A.E.A.F. and the U.S. and British Armies how that policy was to be carried out in the North West European Theatre of Operations.

While the Anglo-American Staff of Headquarters, A.E.A.F. were drafting a scheme for Supply by Air to be issued as an Operational Memorandum with the authority of General Eisenhower, the R.A.F. Staffs at Norfolk House and

/Stanmore

A.E.A.F.  
Admin. Plan  
Supplement  
No. 1  
9.4.44.

File A.E.A.F./  
S.17163  
Encl. 14B  
9.4.44.

Stannore produced a supplement to the A.E.A.F./R.A.F. Administrative Plan entitled "Re-supply for Airborne Operations and Emergency Air Supply". This plan drew a clear distinction between the Re-supply of Airborne Forces which was the responsibility of Headquarters, Airborne Troops working with No.38 Group, and the Emergency Air Supply of Ground Troops which was the responsibility of the R.A.S.C. in conjunction with No.46 Group. In each case arrangements were to be made by the Army Formations to dump the stores they considered suitable at storage accommodation in close proximity to the airfields of No.38 Group (for Airborne Troops) or of No.46 Group (for Ground Troops). No.46 Group was made "responsible for meeting as far as possible demands from the Army for Emergency Air Supply". Demands from the British Army were to be made through Headquarters 21 Army Group/T.A.F. to a Combined Air Transport Operations Room and were to be repeated to those responsible for providing the stores to be transported by air. If found necessary, competing priorities would be decided by S.H.A.E.F. It was proposed to set up a Combined Air Transport Staff at Northolt to work direct under Headquarters, A.E.A.F. to co-ordinate the resources in aircraft, equipment and airfields of Nos.46 and 38 Groups and of 9th U.S.A.A.F. The common use of airfields for both Re-supply and Emergency Supply for the British Forces with consequent pooled distribution of equipment was anticipated. This, however, did not materialise as it was found more economical for No.38 Group to restrict itself to the Re-supply of Airborne Troops once the Assault Phase was over, while No.46 Group specialised in Emergency Supply of Ground Forces.

The daily scale of supply for a Division was to be 250 tons per day and for a Brigade Group 100 tons per day.

/This

This had been agreed with the British Army. A.E.A.F. agreed to plan Emergency Supply by Air for a Division over a period of five days and for a Brigade Group to last three days, i.e. a maximum of 350 tons to be flown across on each of three days and 250 tons per day for two further days. Subsequent planning raised the commitment to a maximum of 600 tons per day and then lowered it to a minimum of 450 tons per day, where it remained. On the 26th May Air Commodore Admin. Plans, Headquarters, A.E.A.F. (Air Commodore Trinder) wrote to Q.Ops. War Office advising that after D + 14 "if conditions required that Emergency Supply by Air in bulk be put into effect it is probable that similar action will be necessary in both the British and U.S. Sectors. On this assumption the lift that might be available for the British Sector is estimated at 1,000 to 1,500 tons per diem; of this lift approximately 500 tons per diem would be moved from No.46 Group airfields and the balance from U.S. airfields".

The S.H.A.E.F. policy for the use of aircraft in this role was published on the 29th April, 1944. A scheme drafted at Headquarters, A.E.A.F. was approved and issued as a S.H.A.E.F. Operational Memorandum. This outlined the procedure for making demands for Supply by Air and the responsibilities of the Air and Ground Forces in meeting those demands, very much on the lines of the Army/R.A.F. Paper of 14th March. It emphasised the difference between scheduled or pre-planned Air Transport Services and Emergency Supply by Air but confirmed that all demands for either type must be submitted to a Combined Air Transport Operations Room ("Cator") to be established and controlled by Headquarters, A.E.A.F. Demands were only to be made by a Navy or Army Headquarters after full consultation with the Air Headquarters with which they were operating, after which they were to go to Army Group/T.A.F. Headquarters for /co-ordination.

File A.E.A.F./  
S. 20683  
Encl. 25A  
26.5.44.

SHAEEF Op.  
Memo. No. 29  
29.4.44.

co-ordination. As long as C.-in-C. 21 Army Group was responsible for the command and supply of both British and U.S. Ground Forces all demands would be co-ordinated at his Headquarters before bids were made on "Cator".

"Cator" was empowered to arrange for -

- (1) All scheduled and emergency air service.
- (2) All fighter escorts.
- (3) Airfields to be used and time supplies to be loaded.

In accordance with the Army/R.A.F. agreement of the 14th March the War Office (or ETOUSA) was to be consulted before A.E.A.F. selected supply loading airfields to serve base depots in the U.K. On the Continent the airfields to serve the Base/Communications zone would be selected by No. 85 Group/1st U.S. Army Group (or C.G. Communications zone). Responsibilities for the provision and recovery of equipment were clearly defined. If supplies were to be dropped panniers were to be supplied by the Army, but special containers, parachutes and roller conveyers were to be provided by the Air Force concerned. (1) The receiving formation was to make arrangements for the recovery of parachutes, panniers and special containers and for returning salvaged equipment to the U.K.

During May 1944, planning and preparations were concentrated on the last minute details of the organisation which had to be in working order once the Assault was

/launched.

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(1) The following explanations may be helpful:-

Containers - Metal cylinders carried in bomb cells.

Panniers - Wicker baskets for holding equipment to operate in conjunction with Roller Conveyors.

Roller Conveyors - Two parallel sets of tracks arranged longitudinally in the fuselage. The cross-pieces of the track are rollers on which the Panniers are positioned. When released these roll easily along the tracks and so out of the aircraft door.

File AEMF/  
TS.911  
Encl.9  
30.5.44

launched. A S.H.A.E.F. Administrative Memorandum No.18 filled in some of the details necessary to implement the Operational Memorandum policy for both scheduled and emergency Supply by Air. Agencies responsible for seeing that demands from Armies, Navies or Air Forces were met were named and the exact channels through which demands were to be made were specified.

Planning for Air Supply in Relation to Other Functions of Transport Aircraft

By this time S.H.A.E.F. and A.E.A.F. policy on such closely related matters as the evacuation of casualties and the movement of individual and small parties to the Continent had been decided and the final shape of the organisations set up was decided in some measure by the fact that agencies often had more than one task to perform. Furthermore, it became apparent early in May that as the Dakota Squadrons were committed to Airborne Operations and their subsequent support it would be prudent to form an emergency reserve of aircraft capable of transporting supplies and evacuating casualties. In consequence of this, No.46 Group was given control of various other aircraft in addition to the Dakotas with which it was first proposed to equip it.

The largest of these accretions was a Detachment of Ansons from the Air Navigation School, Jurby, Isle of Man (Flying Training Command), which were to be under the operational control of No.46 Group. These were intended to carry personnel or supplies only in the event of an unforeseen emergency. After stripping and modification at Hendon, these were capable of carrying 1,500 lbs. of freight or six passengers, or three stretcher cases and two sitting casualties with a nursing orderly.

A reserve pool of 50 of the Ansons was stationed at Watchfield (near Swindon) where they were held, complete

/with

File AEMF/  
S.17021  
Part II  
Encl.27B

with their crews and servicing equipment, to be ready for any emergency calls. As it happened the beachhead did not develop as quickly as expected in the early stages, and consequently there was little occasion for them to be used. An emergency call did come a few days after the Detachment was broken up.

No.46 Group  
O.R.B.  
Org.Branch  
22.5.44

Three other Anson Flights of six aircraft Nos.1310, 1311 and 1312) had been authorised to form at the end of March to provide transportation for reinforcement crews and spares going to 2nd T.A.F. squadrons. These later became No.4 Overseas Aircraft Despatching Unit which served No.83 Group, and No.5 O.A.D.U. which served No.84 Group. The third Flight was intended to serve No.2 Group but was not formed.

File AEAF/  
S.17021  
Part II -  
Encl.17A  
26.4.44.

A Flight of 6 Sparrow aircraft (in No.271 Squadron) had also been built up to serve as short range Transports, particularly in connection with the air evacuation of casualties but also to carry medical freight. Obsolete aircraft such as the Sparrow had been chosen because they could be used on landing strips which were considered unsuitable for Dakota aircraft.

No.46 Group  
O.R.B.  
Org.Branch  
2.3.44.

The formation of a Hurricane Flight (No.1697) was approved w.e.f. 2nd March to operate an Air Despatch Letter Service. Based at Hendon, and later at Northolt, and equipped with Hurricanes fitted with overload tanks it was intended to connect the teleprinter terminals at S.H.A.F.F., the Air Ministry and Thorney Island with landing strips in the beachhead in Normandy.

The plan for scheduled and emergency Supply by Air was, therefore, part of a complex scheme, and arrangements set up for this purpose had to be dovetailed into those made for the transportation of personnel to and from the Continent. Of these commitments, that for Airborne Operations had the

/overriding

overriding priority, but at all times demands for other services had constant repercussions on arrangements set up for Supply by Air.

Passenger Transport Service also had to be arranged so that as soon as airfields were available, officers, V.I.P. and other priority travellers could be flown to and from the beachhead. An elaborate control organisation under the joint management of No.46 Group and 9th Air Force was established with a Headquarters Traffic Office at the Air France building in the Haymarket and a branch at Northolt, from which airfield the services ran. This did not begin to function until the 12th June and was, of course, under the operational control of "Cator" at Headquarters, A.E.A.F.

No.46 Group  
O.R.B.  
Ops.Branch  
June 1944.

See next page

On the 31st May, No.46 Group had a strength of 175 Dakotas (5 squadrons of 30 U.E. plus 5) based at Broadwell, Blakehill Farm and Down Ampney airfields. On the 1st May, 1944, an O.T.U. (No.107) had been set up at Leicester East airfield to train replacement aircrews for the five Dakota squadrons. It was later re-named "No.1333 Transport Support Conversion Unit". In addition to Group Headquarters at Hatch End, there was an Airborne Operations Control Room<sup>(1)</sup> at Eastcote and No.46 Group had an Advanced Headquarters with No.38 Group at Netheravon. Army R.A.S.C. Air Despatch Companies had been established adjacent to each of the three airfields with the Commander, R.A.S.C., at Down Ampney. These were the Army Organisations for handling supplies for the emergency supply of Ground Forces according to the arrangements described above. An R.A.F. Air Freight Control Centre near Down Ampney was ready to centralise the control of freight in transit and/or direct it to the airfield where R.A.F. personnel supervised its loading. Personnel had been

/posted

No.46 Group  
O.R.B.  
Org.Branch  
May 1944

(1) Known as IX T.C.C./38 Group Command Post.

posted to Nos. 91, 92, 93 and 94 Forward Staging Posts and their associated Signals Units whose function it was at first merely to arrange supply and casualty transport by air. At a later stage, when airfields had been allotted by 2nd T.A.F. for the exclusive purpose of air transport, these Staging Posts were required to man such airfields.

Formation of "CATOR"

File AEAFF/  
TS. 911  
Encl. 19  
2.6.44.

Headquarters  
AEAFF O.R.B.  
"Cator" Branch  
June 1944.  
Appendix I

The Combined Air Transport Operations Room to control the whole organisation was set up as from the 1st June 1944 at Stanmore. It was divided into two sections - an Operations Section staffed by the Air Transport Branch of Headquarters, A.E.A.F., and a Supply Section with staff attached from organisations providing supplies, namely War Office, S.O.S. (ETOUSA), 9th Air Force Service Command and R.A.F. Equipment A.E.A.F. The Operations Section existed to allocate aircraft to scheduled or emergency supply tasks, to inform interested parties what air lift was available, to make necessary arrangements between the Supply Section and airfields, and to request fighter escort if required. The Supply Section was of particular importance for making arrangements for Emergency Supply though the Staff also arranged routine traffic. It was to receive the detailed break down of demands from the Armies or from the Air Forces through their own Liaison Officers who were then to arrange for the supplies required to be moved to the Supply Loading airfields.<sup>(1)</sup> The Liaison Officers in the Supply Section of "Cator" were also to be responsible for all packing, marking or, if found necessary, sending by alternative means of transport.

/On

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(1) Broadwell, Blakehill Farm and Down Ampney in the case of the R.A.F., Aldermaston, Northolt, Grove, Smith Lawn, St. Laurent and Whitchurch in the case of 9th Air Force Service Command.

File AEAF/  
TS. 911/  
Encl. 22  
Part IID  
7.6.44.

On D + 1 Day, Movement Control, War Office issued their "Air Freight Movement Instruction No.1" which summarised special arrangements and special Army responsibilities for air freight in "Overlord". It stated that stores selected for this purpose had been dumped adjacent to U.K. airfields under the supervision of a C.R.A.S.C. Air Despatch and had been pre-packed to allow of dropping by parachute.

The organisation for re-supply of Airborne Troops was equally ready on D-Day. Five days supplies for two Divisions were ready under the control of Headquarters, Airborne Troops.

A strip was ready for Transport aircraft in the U.S. Sector on the 13th June and cargoes of blood plasma, medical stores, Ordnance stores, maps and ammunition were rushed across the Channel, while the return journeys were used for evacuating casualties. On the 20th June the first British strip was ready for full operation, and from that time onwards quantities of supplies taken by air by No. 46 Group rose gradually from an average of about 200 tons per week in June to 1,400 tons in the week ending 16th September.

B. THE AIR EVACUATION OF CASUALTIES

Decision on Employment of Transport Aircraft

Planning for the large scale air evacuation of casualties in "Overlord" did not commence on any firm basis until a decision had been reached about the tasks for which Transport aircraft were to be employed. When this had been done and a sufficient time had elapsed to build upon experience in operations in North Africa, Italy and India, the organisation for evacuating casualties from North West Europe began to form. Like that for Supply by Air, it was entirely dependent upon the Transport Squadrons of No.46 Group and when that Group had been formed most of the detailed planning for the air evacuation of casualties became the responsibility of Transport Command.

Air Ministry Policy on the Provision and Employment of Air Ambulances

The question of employing aircraft to evacuate casualties was, from the first, bound up with the question whether or not to provide aircraft for employment specifically as Air Ambulances. Such R.A.F. Ambulance aircraft as existed in 1943 were under the control of the Medical Services, were marked with the Red Cross of the Geneva Convention, and were thus not available to the Air Commanders for any other military purpose. The provision of Air Ambulances had been proposed by D.G.M.S. in peace time and it had been decided to commence a process of dispensing with elaborate Station Sick Quarters in favour of using Air Ambulances to transport patients to R.A.F. Centres with complete facilities.

Offers from certain public spirited bodies such as the Girl Guides Association, the "Silver Thimble Fund" and "Home Chat" to provide money for the purpose of Air ambulances had also been accepted by the Air Ministry, and work had therefore to be put in hand to convert suitable

/aircraft

S. 61904  
Encl. 31A  
30.7.40

aircraft for this purpose. The result of this was that there were in existence in the U.K. in the Autumn of 1943 4 Dominies, 2 Oxfords and 1 Walrus, all fitted up as Air Ambulances.

Ibid  
Encl. 5  
29.10.43.

In the N.W.A.A.F. (Fochfield, Tunis) there was No. 1 (R.A.A.F.) Air Ambulance Unit equipped with 2 DH.86s, 2 Lodestars and 2 Bombays augmented by 4 Bombays on attachment from the Middle East. There were also certain S.A.A.F. Ambulance aircraft in the Mediterranean theatre. These had all been used in an organisation to evacuate Army and Air Force casualties without distinction from battle zones, the great majority of such casualties being, of course, Army personnel. The Light Ambulance aircraft were employed in the Forward Areas transporting casualties from Forward Landing Strips to such Advanced Airfields as were in use by the Dakotas of No. 216 Group which were engaged in their normal role of transporting supplies and personnel to the battle. On their return journeys the Dakotas carried casualties to Base Airfields where they were handed over to the R.A.M.C. authorities.

Ibid  
Encl. 49A  
2.9.43.

In spite of the existence of these and of large numbers of U.S. aircraft in Medical Evacuation Squadrons, it had been the policy of the Air Ministry since the early phases of the war to refuse to accept the commitment to provide aircraft specifically for use as Air Ambulances for the evacuation of Army battle casualties.

#### Pressure Upon Air Ministry to Provide Air Ambulances

On the 14th August 1943 the War Office reopened the question, first raised by them in 1938 and reopened at intervals afterwards, notably in April 1943, when an American offer to the War Office of 10 Lockheed Lodestars for the purpose of Air Ambulances was referred to the Air Ministry. This offer was refused on the grounds that the proposal was not feasible and that existing arrangements

Ibid  
Encl. 45A

in North Africa for the evacuation of casualties had worked successfully.

The Army Council was ".....unable to agree that the use of operational Transport aircraft fulfils their requirements for the following reasons:-

- (a) There is no certainty that operational aircraft will be available and casualties are often kept waiting.
- (b) Casualties have to be taken to aircraft whereas Air Ambulances should go to the casualties.
- (c) The early return of the wounded saves lives, which is vital to morale.
- (d) It is often necessary to send forward urgently needed surgical teams, medical supplies, etc. Blood and blood products could clearly only go by air to prevent deterioration. Operational aircraft are not always available for this purpose.
- (e) Medical attendants required to accompany casualties frequently have to be returned forward by land routes which results in a serious depletion of Medical Units at a critical time.

3. The Army Council therefore considers that it is essential to provide a small number of aircraft in each theatre of war to operate as Air Ambulances in addition to the use of Operational Transport Aircraft".

The requirements could be considered in two separate stages -

- "(i) Evacuation by light aircraft from improvised landing strips close to Advanced Dressing Stations in Forward Areas to Casualty Clearing Stations near Advanced Airfields.

/(ii)

(ii) From Advanced Airfields to Base Hospitals. This could presumably be undertaken by aircraft comparable to normal Transport Types.

4. The Army Council have computed that the probable daily incidence of casualties requiring evacuation per 50,000 troops engaged over stage (i) can be foreseen as 4 stretcher cases and 2 sitting cases per day and over stage (ii) as 12 and 8 respectively..... It is on this basis.....that.....the requisite establishment of aircraft can be determined". "The.....light aircraft for the requirement stated in para.3(i) should be provided as early as possible..... These aircraft should be fitted and marked as Ambulances and should be available at all times for the Medical Services.

6. With regard to stage (ii)..... In view of the present shortage of Transport aircraft it may not yet be possible to set aside the requisite number of aircraft as permanent ambulances..... The Army Council hope, however, that the Air Council will be prepared to provide such Air ambulances as soon as the Transport aircraft situation permits".

Reactions to this proposal at the Air Ministry varied. A.M.P. and D.G.M.S. supported the Army demands. Before the Air Council came to a final decision, Air Commodore Kelly, Principal Medical Officer, Headquarters, N.W.A.A.F. and Group Captain O'Malley, P.M.O., Desert Air Force were brought home to report, and many weeks were spent by the departments in Air Ministry thrashing the matter out with officers who had been intimately concerned with these operations in North Africa, Sicily and Italy. In addition, a signal was sent to A.E.A.F., M.A.C., S.E.A.C. and Transport Command informing them that Ansons or smaller type aircraft were being considered for use in Forward Areas for evacuating casualties from landing

/strips

File AEMF/  
S.17024  
Encl.1A  
27.11.43

Ibid  
Encl.2A  
21.12.43

strips which could not be used by Dakotas. They were asked whether they considered such types as essential components or merely desirable elements in the Transport Force for use in their theatres, bearing in mind the fact that manpower shortages would make a cut in other directions essential. The reply to this question from A.E.A.F. was to the effect that Ansons or similar type for this purpose should form an integral part of the Air organisation "when operations are being conducted in conditions similar to those in the Mediterranean". "They could in suitable circumstances be used for the evacuation of critical casualties from the Forward Areas but I do not consider them an essential component for this purpose".

At a meeting held on the 7th December the Air Council decided -

File  
S.61904  
Encl.55C  
13.12.43

- (1) Aircraft could not be set aside for ambulance work only.
- (2) Anson aircraft should be provided as light Transports, that would not be earmarked as ambulances. They would be available to bring back casualties from the front line but would also do ordinary Transport duty.
- (3) The A.O.C.-in-C. should have complete discretion to agree with the local Army Commander upon the scale and type of aircraft to be provided.
- (4) The policy details should be settled by A.M.S.O. and A.M.T. and an agreed reply sent to the War Office.

Ibid  
57A  
23.12.43

Accordingly the War Office was informed that the R.A.F. would undertake to evacuate casualties by air "on the scale suggested..... The Army Council will, however, appreciate that there are many and varied purposes for which it is necessary to utilise Transport aircraft in the field and it is not practicable to issue instructions to the Air Officers

/Commanding-

in-Chief which would limit their discretion in the allotment of priorities for the moving of the various categories of personnel and freight in accordance with tactical needs from time to time". Air Commanders-in-Chief, however, would be instructed that "the evacuation of casualties for which the use of other means of transportation is inadvisable or impracticable is normally to be regarded as a task of high priority to be provided for after consultation with the Army Commanders-in-Chief, having regard to other calls for air transport".

The Air Council considered that the organisation in the two suggested stages and the types of aircraft to be used on any airfields should be left to Air Commanders, who would be guided by the number and types of aircraft and landing grounds available. It was agreed to modify aircraft used for this purpose so that they could take passengers but not to mark them with the Geneva Cross which "would clearly place a severe restriction on the uses to which Air Commanders could put the available Transport Units which, as the Army Council are aware, are likely to be all too few in relation to the extensive requirements for Air Transport as a whole".

The Air Ministry thus clearly showed that they were prepared to undertake a limited commitment but that they regarded Air Transport as an auxiliary means of evacuating casualties to be used only where it was clearly inadvisable and impracticable to evacuate them by the normal surface transport. Furthermore, they did not accept the Army Council's contention that the use of Transport aircraft for the evacuation of casualties was unsatisfactory.

On the 7th January the Air Commanders-in-Chief, A.E.A.F., M.A.A.F. and the A.C. S.E.A. were told that the

/air

Air Council had accepted the commitment as stated by the Army and that steps were to be taken in their theatres to implement this decision. No further aircraft or personnel were to be established specifically for the evacuation of casualties and no further aircraft were to be marked with the Red Cross. "Evacuation by air of casualties for which the use of other means of transportation is inadvisable or impracticable should, however, normally be provided for after consultation with the Army.....having regard to the other calls for Air Transport". It was not intended to prevent the continued use of any aircraft already established as Air Ambulances.

Dakotas with stretcher fittings would evacuate casualties from the Advanced Air Transport Base to the Base Area. "For the evacuation of casualties from Forward Landing Strips on which Dakotas cannot land, Light Communication aircraft, fitted with carrying stretchers when necessary, are being made available".

Planning on Command Level

Before this policy had been officially promulgated Transport Command had been given advanced notice and had begun preliminary planning. In December, Messrs. A.V.Roe had reported to Transport Command on the modifications necessary to make the Anson suitable for transporting casualties. As it would only carry three stretchers and two sitting cases, Transport Command were not in favour of relying on Ansons if anything better could be found.

Early in the same month the Senior Medical Officer, Doncaster submitted a report on the Harrow/Sparrow aircraft of No.271 Squadron which induced Transport Command to recommend that type for the forward evacuation of casualties instead of the Anson. It had roughly four times the carrying capacity of the Anson.

Headquarters  
AEAF O.R.B.  
P.M.O.Branch  
4.12.43.

File  
S.61904  
Encl.62B  
5.1.44.

/The

Headquarters  
A.E.A.F.  
P.M.O. Branch  
10.11.43.

The Principal Medical Officer, Headquarters, A.E.A.F. and the P.M.O. 2nd T.A.F. had begun planning on the assumption that the provisional agreement to accept responsibility for transporting Army casualties by air would be confirmed. Consequently, five Medical Units for receiving, holding and despatching casualties as a part of Airfield Sick Quarters were being formed in 2nd T.A.F., two in each of the two Composite Groups (Nos. 83 and 84 Groups) and a fifth in No. 2 Group. As the main responsibility for the air evacuation of casualties would now rest upon Transport Command, arrangements were made to transfer Nos. 1, 2, 3 and 4 Casualty Air Evacuation Units from the Composite Groups to No. 46 Group where they were to be incorporated in Nos. 91, 92, 93 and 94 Forward Staging Posts. The medical personnel were all sent to Lynham where they commenced their training at the end of January. After this was complete they would join up with the freight and passenger handling personnel in the Forward Staging Posts and move as one organisation to airfields on the Continent designated for transport use by 2nd T.A.F. The remaining C.A.E.U. in 2nd T.A.F. was to be transferred from No. 2 Group and divided between Nos. 83 and 84 Groups to supplement the existing medical personnel on the Forward Landing Strips. The P.M.O.,

Headquarters  
A.E.A.F.  
O.R.B.  
P.M.O. Branch  
10.1.44.

Headquarters, A.E.A.F. hoped that the holding capacity of such Forward Airfield Sick Quarters could thus be expanded so that 20 casualties could be held for short periods awaiting emplaning. The policy being advocated by 2nd T.A.F. was that a Forward Shuttle Service should be organised to operate up to the more important Advanced Landing Strips. From there the Forward Shuttle aircraft would evacuate casualties as far back as the airfields which 2nd T.A.F. had selected as the ones to which Transport Command

Dakotas might come. This would secure what the Army had asked for, namely the evacuation of casualties in two stages. It was considered essential that the Composite Groups should control the Forward Shuttle Service rather than No.46 Group because the operations of these Light Transports depended upon the course of air and ground operations and particularly upon the degree of local air superiority and the local weather.

The 2nd T.A.F. proposal reached the Air Ministry in a letter from the Air C.-in-C., A.E.A.F., in which he referred to the promise given on the 7th January to make available Light Communication aircraft fitted to carry stretchers when necessary but stated that both A.O.C. 2nd T.A.F. and C.-in-C. 21 Army Group had asked for Sparrow or Bombay aircraft for this purpose. He himself supported this request because a small number of such aircraft were operationally preferable to large numbers of low carrying capacity Light aircraft. He asked for a Flight of Sparrow aircraft, complete with crews and ground organisation, to be established in Transport Command for the purpose. Apart from the fact that Leigh-Mallory asked for the Flight to be established in Transport Command, there was no suggestion that the aircraft were to be used for anything else except evacuating casualties. No mention was made of Red Cross markings.

Decision to allot light transport aircraft for Evacuation of Casualties in Forward Areas.

In reply, the Air Ministry agreed to 6 Sparrow aircraft being allotted to A.E.A.F. and to 6 Ansons to M.A.A.F. and <sup>A</sup> Air C.S.E.A. The primary purpose of each Flight was "the evacuation of the worst casualties from Forward Airfields near Casualty Clearing Stations in circumstances where larger Transport aircraft are unable to use the Main Advanced Fields or Strips. The

/aircraft

File ABEF/  
S.17024  
Encl.10.  
15.2.44.

File  
S.61904  
Encl.84.  
28.2.44.

aircraft will, of course, be available for transport to the Forward Areas urgently requiring stores and personnel of any nature, though medical personnel and stores should normally receive priority". Thus, although the principle was maintained that these were to be Transport aircraft under the control of Operational Commanders, they were in fact though not in name established as Air Ambulances, and in time the Flight in No.271 Squadron became known as the Ambulance Flight.

But the Air Ministry went even further than was necessary to meet the specific request by Leigh-Mallory for a "Flight of sufficient strength to ensure that a minimum of 6 aircraft could be maintained in serviceable condition". In addition, 5 light twin-engined aircraft were to be allotted to each of the other Transport Squadrons operating in the three theatres. In A.E.A.F., Ansons were to be provided ".....for general transport use, but during periods of intensive operations they may be used in the same way as the Flight established primarily for ambulance work". Once again Red Cross markings were prohibited.

Considerable pressure had, in fact, been brought to bear upon the Air Staff and A.M.S.O. before this decision had been made known. A.M.T. and D.G.M.S. remained strongly in favour of providing the fullest facilities possible for this service to wounded soldiers, mainly on humanitarian grounds. The Army, too, were far from being satisfied with the concessions made in the Air Council letter of the 23rd December 1943.

Finally, Air Chief Marshal Courtney saw Generals Adam, Weeks and Crawford on the 5th February to discover whether their grievances could be met. The D.C.I.G.S. told him that the Army would not be satisfied until they

/could

Ibid  
Para.2

Ibid  
Encl.70A

could count upon a limited number of aircraft specifically allotted for ambulance work in the Forward Areas. They were satisfied with the work of the Dakotas. The Adjutant-General said that feeling on the subject ran very high but thought that 6 aircraft for each theatre would meet the worst need. The D.Air suggested that a few aircraft entirely allocated to the Army would solve the problem but A.M.S.O. would not accept a proposal to put R.A.F. aircraft under the sole command of an Army Commander. He did say, however, that arrangements were being made for a Flight of 6 light aircraft (probably Ansons) to be added to a squadron of No.46 Group and for 5 Ansons to be added to other squadrons in No.46 Group. But it would be unfair to Commanders, in view of the present shortage of aircraft, to devote these entirely to the Transport of casualties. A draft of these proposals was eventually agreed with the Army, and the arrangements as described in the Air Ministry letter of the 28th February went forward.

#### Transport Command Planning

The general policy thus being settled it remained to complete the detailed planning, most of which had to be done by Transport Command usually in conjunction with 2nd T.A.F. The Air Ministry (D.D.O.2) signalled Headquarters, Transport Command, Headquarters M.A.A.F. and Air C.S.E.A. on the 9th March that "a corollary of the establishment of aircraft for the purposes of evacuating casualties is that a ground organisation must be set up on airfields for the reception of casualties. Where the commitment is only casual, improvisation may be resorted to and the Medical Section already on the airfield will suffice. On all regular Air Transport routes over which it is anticipated casualties will be evacuated, the Medical

Ibid  
Para.3

Section at each Staging Post at which casualties are likely to be landed is to be strengthened so that Medical Services are not overtaxed by the arrival of casualties. At certain points it may be necessary to provide additional Sick Quarters.

Ibid  
Para.4

Ibid  
Para.5

It may also be necessary at times for a Medical Orderly to travel in aircraft. For this purpose, a small pool of Medical Orderlies should be established in each Combat Area.... Responsibility for organising this Service rests with Transport Command, who are responsible for the operation of aircraft and for the Staging Post at which wounded will be landed. Nevertheless, the full co-operation of Commands is essential".

The general lines of Transport Command planning were laid down by the Principal Medical Officer, Transport Command (Group Captain L.M. Corbet). Estimates of casualties by the Army showed that a minimum figure of 200 patients per day had to be planned for by Transport Command. This might increase to 600 a day for periods of intensive operations. These figures were recognised as tentative and included provision for R.A.F. casualties who were expected to be only from 1% to 8% of the total. Consequently, arrangements were made to provide in each of the four Forward Staging Posts personnel capable of loading and holding for short periods up to 100 patients per day.

Transport  
Command  
O.R.B.  
Medical  
Branch  
Appendix X  
30.1.44

At the three main No.46 Group bases in the Swindon/Oxford area (Broadwell, Blakehill Farm and Down Ampney) arrangements had to be made to hold a total of 600 casualties for short periods, after which they were to be transferred by R.A.M.C. Motor Ambulances to hospital trains. The Army assumed responsibility for the patients as soon as they were outside the aerodrome boundaries and undertook to maintain fleets of Motor Ambulances near the three airfields.

/They

They also undertook to construct two new sidings at Shrivvenham, G.W.R., where hospital trains would be loaded from the Motor Ambulances.<sup>(1)</sup> R.A.F. casualties brought to Broadwell, Blakehill Farm and Down Ampney would be taken by R.A.F. Motor Ambulances to the R.A.F. hospital at Wroughton.

As it was not proposed to hold casualties for more than the short waiting period sometimes necessary to clear them, tentage for 200 was provided at each of the three airfields. In addition, Station Sick Quarters could hold about 30 patients. Facilities were provided for medical attention and feeding for periods up to four hours, and M/T Ambulances sufficient to transport wounded from the farmac to the tents.

An elaborate description of the principles and practice of casualty air evacuation outlining the organisation being set up and summarising the various responsibilities of Army and Air Force personnel was issued by Transport Command for the guidance of all concerned.

Transport  
Command  
O.R.B.  
Medical Branch  
Appendix E  
8.2.44.

#### Reciprocal Aid to U.S. Forces

An agreement was reached by the Air Ministry with Headquarters, U.S. Army Air Forces whereby arrangements were to be made at R.A.F. Stations at which aircraft carrying American wounded might land, for attendance to be given and for immediate information to be passed to the appropriate U.S.A.A.F. authorities. These could then take action to remove their wounded. Pending the arrival of the U.S. Medical Personnel, R.A.F. Medical Officers were to treat them as if they were R.A.F. casualties.

File ABAF/  
S.17024  
Encl.12B  
23.2.44.

/Establishment

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(1) The Army Officer in charge of the Air evacuation of Army casualties was the D.D. Medical Services, Southern Command.

Establishment of Sparrow Flight

One feature of the arrangement made by the Air Ministry for the provision of the Forward Shuttle Ambulance Service to be organised by Transport Command gave rise to considerable anxiety in that Command. The request made by Leigh-Mallory at the instance of 2nd T.A.F. had been for a sufficient establishment to ensure six serviceable aircraft in operation, whereas the Air Ministry had authorised a Flight of 6 + 0 Sparrows. It seemed to those in Transport Command that in view of the fact that the Flight would be operating from Forward Strips distant from full maintenance facilities, and in view of the obsolescence of these aircraft, an establishment of 12 + 0 aircraft would be required to maintain six in serviceable condition. This was put up to Headquarters, A.E.A.F. who made strenuous but futile attempts to obtain amended establishments.

D. of O. refused to re-open the agreement made with the Army. D.G.O. thought that in some "quite proper way" the Command could secure what they wanted without reference to the Air Ministry, and that was, in fact, what happened. Upon the re-equipping of No.271 Squadron with Dakotas, 12 - 14 of their Sparrows were thrown up and these were absorbed by the Ambulance Flight some of these being cannibalised when spares could no longer be obtained.

Statement of A.E.A.F. Policy

Following discussions with the Principal Medical Officer and his Deputy, Transport Command, and with the Principal Medical Officer U.S. Air Forces in Europe, the Principal Medical Officer of Headquarters A.E.A.F. (Air Vice-Marshal Cowtan) sent their combined views to the Air Transport Staff Officer at Headquarters A.E.A.F. for embodiment in an Air Staff Policy and Operational Instruction, which was promulgated as Instruction No.8 on the 26th February 1944, entitled the "Air Evacuation of

/Casualties"

File AEAFF/  
S.17024  
Encl.16B  
28.3.44.

Ibid, 22A  
11.4.44.  
File S.61904  
Minute 93  
7.4.44.

Headquarters  
AEAFF O.R.B.  
P.M.O.Branch  
7.1.44.

File AEAFF/  
S.17024  
Encl.7A

Casualties". This stated the general policy to be followed in the North West European Theatre of Operations and defined the responsibilities of those concerned with implementing that policy.

For the sake of clarity in assigning responsibilities, four different types of airfield were defined -

- (a) Advanced Landing Strips - close to the front line, usually single strips.
- (b) Forward Delivery Airfields - terminal airfields allotted by T.A.F. for use of Transport aircraft, possibly 50 miles behind (a).
- (c) Advanced Base Airfields - in Base or L. of C. area on Continent.
- (d) Main Base Airfields - So far as the R.A.F. was concerned these were Broadwell, Blakehill Farm, Down Ampney, and Watchfield - only in emergencies were British casualties to be landed elsewhere.

Although the British aircraft to be used would belong to Transport Command, A.O.C. 2nd T.A.F. was to control the operations of such aircraft in the British Forward Area. It was made quite clear that the air evacuation of casualties would always depend upon the local air situation and the prevailing weather conditions, as well as upon the availability of airfields and aircraft.

The bulk of the arrangements for the air evacuation of British wounded were to be made by A.O.C. No.46 Group whose responsibilities covered the air evacuation from Forward Delivery Airfields rearwards. Specifically, his responsibility would be to

- (a) regulate the flow of casualties for evacuation through Air Force and Army channels;
- (b) hold casualties at Forward Delivery and Advanced Base Airfields and despatch them whenever opportunity served;

/(c)

- (c) decide order of priority for evacuation;
- (d) receive and hold (in emergency) casualties at Main Base Airfields in the U.K.;
- (e) Provide nursing orderlies to travel with casualties (if required).

The function of Headquarters, A.E.A.F. was that of co-ordination and, to ensure a uniform Allied policy, the responsibilities of the U.S. formations were outlined on the same lines. The Tactical Air Forces were to be responsible for the operations in the Forward Areas but the aircraft were to be provided by Troop Carrier and Service Commands.

#### Detailed Planning

During March, April and May 1944 detailed planning and the training of personnel proceeded although there was considerable doubt as to what date the flow of casualties would begin and as to how many would be handled. It was at first expected that some Dakotas would be available on D + 10, but as it gradually became apparent that they might be entirely engaged in the support of Airborne operations, it was necessary to plan alternative means of transport to evacuate casualties during the waiting period. Accordingly, a few weeks before D-Day a total of 70 Ansons were procured from Flying Training Command, as described in Section A of this Chapter. All these Ansons were fitted to carry stretchers. They were stationed at Watchfield in the Swindon area and were thus convenient to Shrivenham sidings and to the R.A.F. hospital at Wroughton.

The arrival of a number of Canadian medical personnel at this period made it possible to form another Casualty Air Evacuation Unit to serve No.84 Group and thus render it unnecessary to divide the personnel of No.5 C.A.E.U. between Nos.83 and 84 Groups as was first planned when the other 4 C.A.E.U.s were transferred to No.46 Group.

/later

Headquarters  
AEAF O.R.B.  
P.M.O.Branch  
8.5.44.

Headquarters  
AEAF O.R.B.  
P.M.O.Branch  
9.5.44.

Headquarters  
AEAF O.R.B.  
P.M.O.Branch  
Appendix VIII  
22.5.44.

Later in May a Conference at the War Office, attended by D.G.A.M.S. (War Office), D.G.M.S. (Air Ministry), D.G.E.M.S. (Ministry of Health), D.M.S. (21 Army Group), D.D.M.S. (Southern Command) and the P.M.Os of Headquarters, A.E.A.F., Flying Training Command and Transport Command was held to finalise the Air Evacuation arrangements. The arrangements that 6 Sparrows and 70 Ansons were available for use in Forward Areas if required, and that all returning Transport aircraft were available for use between the Continent and the U.K., and that a rate of 600 casualties per day was planned for by D + 40 on the basis of 200 at each of three airfields, were approved by all concerned. No casualties were to come by air before D + 6. From D + 6 to D + 8 Dakotas on the ground for short periods might embark up to 100 per day. No Air evacuation was planned for the next three days. From D + 11 to D + 40 between 100 and 200 casualties were expected to come by Light Transport Ansons to Watchfield; thereafter, 600 daily by Dakotas. 10 per cent of all casualties were expected to be urgent cases and would go by Ambulance to Oxford or Stratton St. Margarets. The remainder would be taken to Shrivenham. A Control Headquarters was set up at Swindon connected by direct lines with airfields, hospitals and ambulance pools.

#### Final Arrangements

A fortnight before D-Day Transport Command and 2nd T.A.F. organised a joint exercise ("Shuttle") designed to try out the whole organisation for the Air Evacuation of Casualties but in particular the working of the Forward Shuttle Service. No.5 C.A.E.U. loaded casualties into Sparrow aircraft at West Hampnett (representing a Forward Landing Strip) and they were then flown to Blake hill Farm (Main Base) in one stage. As the casualties were late in arriving at West Hampnett they were loaded direct into

/aircraft,

aircraft, thus robbing the exercise of some of its value at that end. At Blakehill Farm the Holding Unit was also not exercised as the casualties were transferred from aircraft to motor ambulance and sent direct to hospital. This was the only opportunity that personnel had of functioning before the flow of casualties commenced.

At the end of May it was learned that the Contractors site at Down Ampney was being evacuated, and as this was adjacent to Station Sick Quarters and consisted of Nissen Huts and other huts it was taken over to replace the tentage for 200 patients.<sup>(1)</sup> On 21st September, Down Ampney took over Blakehill Farm commitment and its facilities were extended to enable it to cope with 400 cases per day. At the same time huts replaced tents at Broadwell.

#### Blood Service

In connection with Supply by Air and the Evacuation of Casualties Service, arrangements were made with the Army Blood Depot, Bristol for a supply of blood to be brought by road in refrigerator vans to Down Ampney, where it was stored in a 10-ton mobile refrigerator. One ton of blood was then to be flown to France every day and met at the airfield by the Army Blood Transfusion Unit vans which distributed blood to Army and R.A.F. Medical Centres. This was subsequently found to be a great success and larger daily quantities were transported.

#### Conclusion

The first casualties flown back from the beachhead were 15 U.S. Army personnel brought back by three 9th Air Force Dakotas from the U.S. Emergency Landing Strip on the 10th June. Three days later 23 British Army and 1 R.A.F. casualties were flown back in No.46 Group Dakotas from the British E.L.S.<sup>(2)</sup> to Blakehill Farm. Emplaning arrangements

/had

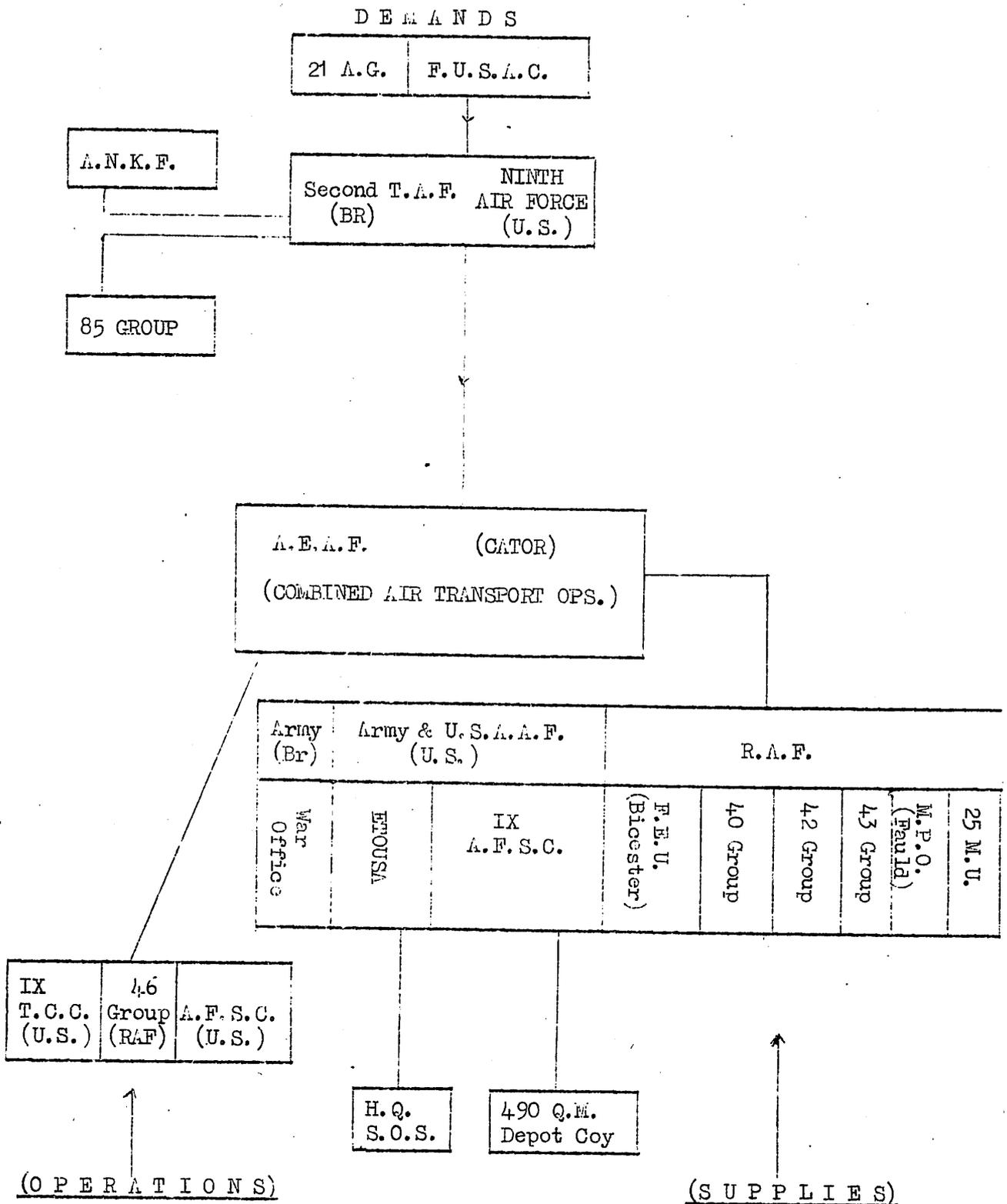
(1) At the beginning of Autumn.

(2) Emergency Landing Strip.

had not been good as the casualties had to wait for a long period in the dust of the E.L.S. but this was partially remedied as the waiting period was soon cut down, although the elimination of dust remained the worst problem.

FIGURE 5.

CONTROL OF TRANSPORT AIRCRAFT IN "OVERLORD"



- N.B.
- (i) There was W/T, teleprinter or telephone communication between A.E.A.F. and all the Headquarters shown above.
  - (ii) CATOR was connected to the Ops., P.B.X. Exchange.
  - (iii) Ninth Air Force and Second T.A.F. were connected with CATOR by direct W/T links when the former Headquarters moved to the Continent.

XV. ADMINISTRATIVE ARRANGEMENTS FOR THE  
R.A.F. COMPONENT OF A.E.A.F.

The A.E.A.F. R.A.F. Administrative Plan and  
Joint Maintenance Project

The tasks of producing the Administrative Plans for "Overlord" and of taking the executive action necessary to implement them, inevitably required a protracted period for their completion. Accordingly, we find that some of the problems involved were already under consideration as far back as 1942. In those early days the Planners were concerned chiefly with the formulation of a joint administrative policy and with the study of such problems as would be certain to arise whatever the final form of the operational plans; for it was obviously impossible to attempt more than a tentative outline of the administrative organisation until the ultimate shape of the operation itself could be more clearly envisaged.

It was not, therefore, until the end of 1943 that a period of intensive detailed planning activity began. It opened with the setting up of the Allied Expeditionary Force Headquarters on the 16th November 1943, and culminated with the issue, on the 8th February 1944, of the Joint Maintenance Project (1) and, on the 19th February, of the A.E.A.F. R.A.F. Administrative Plan (2). These documents were to be the basis for all subsequent administrative action, at least as far as principles were involved, for in the process of application it was found necessary to modify some of the

/ more

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- (1) Future references to the Joint Outline Maintenance Project/ Administrative Plan, d. 8.2.44, issued with the Initial Joint Plan (NJC.1004) d. 1.2.44, under the ref. 21A.Gp./ 5511/5/Q(Plans), will be made under the short title "Maintenance Project".
- (2) Future references to the Allied Expeditionary Air Force/ Royal Air Force Administrative Plan (AEAF/MS.686/Admin Plans) d. 19.2.44, will be made under the short title "AEAF Admin. Plans."

more detailed proposals. During this time, both the Air and Administrative Plans Staffs of Air Chief Marshal Leigh Mallory were working at Norfolk House, firstly under the overall direction of General Morgan (C.O.S.S.A.C.), and later under General Eisenhower, who took up his position as Supreme Commander Allied Expeditionary Force on the 16th January 1944.

Although the Administrative Plan and the Joint Maintenance Project are the most important documents in a study of the detailed administrative preparations for "Overlord" in the narrowest sense, mention should be made of some of the preliminary studies and directives which appeared towards the end of 1943, as these indicate the problems which the Planners had to solve and, in some cases, lay down policy decisions which conditioned the content of the final plans.

#### The Review of Administrative Problems.

One of the first Papers to give a comprehensive survey of the administrative requirements for "Overlord" was the R.A.F. Review of Administrative Problems, the first draft of which came out on the 6th October 1943. An amended version of this Review was issued on the 22nd December and embodied many suggestions later to be incorporated in the R.A.F. Administrative Plan. Its professed aim was to standardise methods of procedure for coping with administrative questions, and its approach was from the R.A.F. point of view rather than from that of the U.S.A.A.F. It stressed particularly the need for a flexible and efficient supply system in an operation which had its main base located in the United Kingdom, and the main reserves of equipment on this side of the water. Replacement of consumption was, indeed, to be one of the chief problems of administration in the early stages of the campaign, before the Maintenance Units of the Base Group were established on the Continent. The rate of consumption would, of course, be determined by the number of Advanced Landing Grounds

COSSAC/RAF/  
S.499, d.  
6.10.43.

and airfields that could be constructed in the period immediately after the assault. The Review of Administrative Problems assumed a total of fourteen airfields, plus two Refuelling and Rearming strips by D + 14, the maintenance of which would be carried out over the beaches until some time after D + 30, as the major port which it was hoped would be

a) Review of Admin. Problems Part II Section 3, Para. 23.

b) Maintenance Project, Section I, para. 15.

Review of Admin. Problems, Part III, Section 3, para. 40.

in action by D + 17 was to be used principally by the Americans. The Operational Plan envisaged the capture at a later stage of further ports to the East, which would then become the permanent bases for the British forces. But until this stage was reached, the Base Area would have to be organised on a temporary basis, and its Units so constructed that they would be able to throw off advance parties and still continue to operate. This need for a maintenance organisation flexible enough to meet the conditions of each successive phase of the operation, was a vital factor in determining the type of administrative units to be formed and the system by which their functions were to be co-ordinated. The Review of Administrative Problems indicates the three main stages, for administrative purposes, of the early months of the operation and touches on the problems peculiar to each. These stages may be roughly described as follows:-

- (1) The mounting of the operation in the U.K.: the administration of Units at their tactical locations and in the Concentration, Marshalling, and Embarkation areas.
- (2) Administration over the beaches: the system of maintenance to cover the period from the launching of the assault until the establishment of No. 85 (Base) Group on the Continent.
- (3) Administration on the Continent after the transfer of the Base Group to its overseas location.

It was on the basis of these divisions that the organisation described in the R.A.F. Administrative Plan and in the Joint Maintenance Project was eventually developed.

Air C.-in-C's Directives.

After the publication of the R.A.F. Review of Administrative Problems, there appeared in November and December 1943 the final drafts of a C.O.S.S.A.C. Administrative Appreciation in three parts. A more specifically Air Force document of this period was the Air C.-in-C's Directive to A.D.G.B., 2nd T.A.F. and No.38 Group dated the 17th November, which outlined the respective administrative responsibilities of these formations. As a result of subsequent experience, it was found necessary to amend the instructions contained in this Directive, and the revised Appendices were issued on the 28th January 1944, by Headquarters A.E.A.F. These Appendices stated in detail the responsibility assigned to each Command or formation in A.E.A.F. for various aspects of administration, as for instance Organisation, Engineer Services, Equipment and Supplies, Armament, Personnel, etc. The general position was that all matters of major policy, priorities, and questions involving reconciliation of the requirements of the different Commands should be decided by Headquarters A.E.A.F. But in the implementation of the policy decisions of Headquarters A.E.A.F., the subordinate Headquarters of 2nd T.A.F., A.D.G.B., and No.85 Group were authorised to deal directly with the Air Ministry provided they kept Headquarters A.E.A.F. informed. As No.38 Group was by then under the administrative control of A.D.G.B., its independent dealings with the Air Ministry were to be confined to certain technical matters.

A separate C.-in-C. Directive to No.85 Base Group was issued on the 7th January detailing the functions and responsibilities of that formation. The role of the Base Group was to be primarily administrative, in that it was to be responsible for

the local administration of all R.A.F. Units operating in or passing through the Base Area, and for the general administration of all R.A.F. Detachments and personnel temporarily within the Base and L. of C. Area which were not directly under the control of another Headquarters. In addition, it was to control both administratively and operationally the Units of the Static Fighter Defence Organisation in the Base Area. Until No.85 Group was established on the Continent, administrative responsibility for all Units of the R.A.F. Component was to be with 2nd T.A.F. When No.85 Group took over the administration of the Rear, it would become responsible for co-ordinating all R.A.F. requirements, including those of 2nd T.A.F., and for working together with the Base and L. of C. Commanders of 21 Army Group and of 2nd T.A.F. in the handling of R.A.F. personnel and material between beach or port and along the line of communication to forward destinations. General policy control would, in all matters, be exercised by Headquarters A.E.A.F.

The A.E.A.F. Administrative Plan.

Meanwhile, the preliminary work on the R.A.F. Administrative Plan was going ahead. At the A.O.A. Staff Conference, Headquarters A.E.A.F., on the 6th January, Air Commodore Admin. Plans was able to say that the writing of the plan had begun and that his Staff would proceed with the general outline and framework of the Plan and with the main paragraph headings, but would leave certain detailed Sections to be filled in by A.E.A.F. Branches. On the 11th January 1944, the framework was issued. Group Captain Shapcott was appointed to act as co-ordinator and editor of the Plan. On the 15th February it was announced at a Meeting at Norfolk House that the first draft of the Plan had been circulated and an "Organisation of Work Table" had been

/ issued.

issued. The final version of the Plan was completed by the 19th February and issued a short time afterwards under that date heading. In a Minute of 22nd February, A.O.A. (R.A.F.) stated that it would now be necessary to take executive action on such matters as, for instance, the organisation of a fast sea route for supplies and personnel, and the arranging with No.46 Group for delivery of stores and evacuation of casualties.

The Joint Maintenance Project.

Although the R.A.F. Administrative Plan dealt in reasonable detail with methods of maintenance, amplifying the suggestions put forward in the Review of Administrative Problems, the planning of a comprehensive Maintenance Organisation was a task

which required separate treatment, not simply because maintenance in an operation such as "Overlord" was such a very large part of administration but because it was a task in which the R.A.F. had to co-operate with other Services, mainly the Army, if a workable plan was to be produced. Accordingly, on the 8th February 1944, the Planning Staffs issued the Joint Maintenance Project. This

Paper defined the responsibilities of the R.A.F. insofar as "common user" items of Services were concerned, and indicated the proposed procedure for dealing with this in conjunction with the Army. The policy for the division of administrative responsibility between the R.A.F. and the Army had, of course, long been established in its general principles but the application of this policy to the specific problems of "Overlord" had still to be worked out.

The A.E.A.F. R.A.F. Administrative Plan and the Joint Maintenance Project provided between them the basis for subsequent administrative preparations for "Overlord". Inevitably, in the light of experience, constant modifications had to be made to the detailed proposals but, in the main, both the principles and the organisation laid down in these documents were those actually put into force.

/ Accordingly,

Initial Joint  
Plan(NJC1004)  
d. 1.2.44.  
section L,  
para.140.

Maintenance  
Project,  
Appendix "C"  
Annexure I.

Army Field  
Service Regu-  
lations, Vol.I  
Section 87, and  
RAF War Manual,  
Pt. II Chap. X.  
Also Appendix  
"C" to Maint-  
enance Project.

Accordingly, to comprehend the elaborate machinery which was gradually built up to meet the administrative requirements of "Overlord", a grasp of the main features of the Administrative Plan and of the Maintenance Project is necessary.

Main Features of the A.E.A.F. (R.A.F.) Administrative Plan and the Joint Maintenance Project.

AEAF Admin Plan, Part I para.3.

Maintenance Project, Introduction, para.'s 1a & 1b.

The aim of the Administrative Plan, as stated in its opening paragraphs, was to provide the basis on which administrative arrangements were to be carried out, and to state the policies which had been decided. The object of the Joint Maintenance Project, the scope of which was narrower in that it dealt chiefly with the maintenance problems of administration, and wider, in that it involved co-operation with the Army, was firstly to indicate broad policy for the administration and maintenance of all forces engaged in operation "Neptune", and to assist Commanders in planning, and secondly, to indicate in greater detail the policy for maintaining land forces, and for maintaining air and naval forces insofar as land forces are responsible therefor.

AEAF Admin. Plans, Pt.II, para.41.

Review of Admin. Problems, Pt.III, Section I, para.1.

The distinctive feature of Operation "Overlord", as far as administrative planning was concerned, was that the main base for the operation was to be in the U.K. This fact was one of the chief formative influences in the shaping of the administrative organisation. The other very significant factor was the extreme mobility that it was expected would characterise the early stages of the operation. It was, moreover, inevitable that during these early stages the amount of shipping space available for supplies, and for non-operational personnel, would be severely limited. This circumstance precluded the possibility of establishing the Base Group on the Continent during the assault phase, and made it necessary to devise a system of supply and maintenance

/ which

which would enable units in the field to carry on satisfactorily until such time as the permanent base administrative organisation arrived. Accordingly, to tide over this vital period, special arrangements had to be made, and a number of units were formed whose functions would cease when the base administrative units took over. The war in which this temporary system worked will be outlined in due course, but a characteristic example that may be noted in passing is that of the Beach Squadrons and Sections.

The need for these units was occasioned by the fact that the maintenance of the British forces in "Overlord" would probably continue over the beaches until after D + 30. The anticipated opening of the first major port by D + 17 would make little difference to the position, as the bulk of its capacity was to be allocated to the Americans. It was therefore important that arrangements be made to ensure the proper handling, unloading, storage, entraining, etc. of R.A.F. equipment and supplies which arrived via the beaches, and a Beach organisation was accordingly formed to carry out this work until the opening of the British "Mulberry", or Artificial Port, and the capture of other existing ports, diverted the bulk of the traffic to more normal channels. Other units with a purely temporary function were formed to carry out "running repairs" to aircraft and M.T., until the permanent replacement and repair system could come into operation.<sup>(1)</sup> In fact the conditions prevailing during the period from the launching of the assault until a firm foothold had been secured on the Continent were such as to require quite different systems of supply and maintenance from those which were to be employed in the later phases of the operation.

The immediate and overriding task of the R.A.F. administrative organisation in the days following the initial assault on the beaches was, to put it simply, to maintain in /fighting

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(1) See below, Section entitled "RAF Forward Maintenance Organisation".

Review of Admin Problems, Pt. II, Section 4, para. 23.

ibid. Section 3, para. 23.

AEAF Admin. Plan, Appendix "H".

Maintenance Project, Section I, para. 21, and Appendix "C", Serial 18.

Overall Air Plan, Part II, Section I, para. 48a.

AEAF Admin. Plan, Part V, para. 140.

fighting condition as many aircraft as the operational plan required, and to ensure that no hitch occurred through a breakdown in the chain of supply and maintenance. The actual construction of airfields was mainly an Army responsibility, since the Royal Engineers were better equipped than anyone else to do the job, but the R.A.F. had to undertake practically all other services necessary to administer the finished product, in addition to the assistance in construction rendered by the Airfield Construction Wings, of which more will be said later. The rate at which Advanced Landing Grounds, Refuelling and Rearming Strips, and complete Airfields could be completed naturally determined the rate at which supplies of Aviation, P.O.L. Ammunition, Aircraft spares, etc would have to be phased in. It was accordingly necessary to estimate as closely as possible the rate of construction which could reasonably be assumed. In view of the pre-eminent need for air superiority at an early date, it was moreover desirable to plan administratively for a higher rate of construction than could be foreseen before the assault took place, so that any unexpected advantages would not be wasted. The R.A.F. Administrative Plan envisaged a development up to D + 40 as indicated below.

<u>Date</u>	<u>British Sector</u>
D-Day	1 Emergency Landing Strip
D+3/4	2 Re-fuelling and Re-arming strips.
D+8	5 Advanced Landing Grounds.
D+14	10 Airfields.
D+24	15 "
D+40	25 "

The Functions of the Base Group.

In the initial stages of the assault all responsibility for R.A.F. administration was to be vested in A.O.C.

ibid.Part II,  
para.45.

2nd T.A.F., until such time as T.A.F. Units vacated the base area (i.e. by D + 30-40) and units of 85 (base) Group moved in to take over the administration of the rear. 2nd T.A.F. was built up of two Composite Groups (Nos.83 and 84), No.2 Light Bomber Group, and No.

ibid.Part VI,  
para.197.

34 Recce Wing. Attached to the Composite Groups were various mobile aircraft and M.T. and signals maintenance units, which were to become a part of the R.A.F. Forward Maintenance organisation. These units, whose functions and scope will be described later, carried the full weight of maintenance and servicing during the difficult "emergency" period before the long-term organisation could become operative. The gradual build-up on the Continent of the Base Group units was the task of A.O.C. 2nd T.A.F., who was further responsible for controlling such of these units as landed very early in the assault phase. The first part of No.85 Group to go across was not the administrative element, but the Static Fighter Defence organisation for the protection of the base area. This group was gradually expanded as the administrative units went over during the build-up phase until it was eventually administering the whole Base. No.85 Group thus had two roles, an operational one and an administrative one, but its primary functions were of an administrative nature. Its essential purpose was in fact to serve as the permanent administrative base for the operations of the R.A.F. Component of A.E.A.F. As, therefore, its importance in the administrative history of the air forces in "Overlord" is very great, a brief account of its main tasks is apposite. In addition to his responsibility for the command and administration of all units assigned to the Group, A.O.C. No.85 Group had also to carry out the local administration of other R.A.F. Units operating in or passing through the Base Area, together with his responsibility for the administration and care of all R.A.F. detachments and personnel temporarily in the Base and L. of C. area, which were not under the control of another H.Q. Regarding stocks of

Review of  
Admin. Pro-  
blems,  
Part III,  
Section 1,  
para.6.

/ equipment

equipment, he was responsible for ensuring that these were kept at the levels laid down by H.Q. A.E.A.F. And in conjunction with the appropriate Army authorities, H.Q. A.E.A.F., and H.Q. 2nd T.A.F. he was to work out the plans for the move of the Base Group to the Continent. Finally, he had to represent the broad interests of the R.A.F., and to co-ordinate with the Commanders in the Base and L. of C. the work of handling R.A.F. personnel and material from beach or port and along the L. of C. to delivery points.<sup>(1)</sup>

Maintenance Project, Section I, para 5a.

The general control and development of the rear maintenance area was the responsibility of H.Q. 21 Army Group, in co-operation with Second Army and 2nd T.A.F. Store and Supply depots in the base areas were to be controlled by the Army Commanders and A.M.C. 2nd T.A.F., and R.A.F. requirements of stores were to be included in Second Army Bids.

ibid. para 7a.

ibid. para 14b.

There was to be only one R.A.F. base maintenance

Review of Admin. Problems, Part III, Section 3, para's 29 & 40

organisation, and it was to be capable of moving in echelons, in case the capture of further ports should make possible the shortening of the L. of C. as a whole. Where there was no R.A.F. base organisation near to a port, R.A.F. stores were to be handled by R.A.F. embarkation staff. Two R.A.F.

ibid. para. 29

File AEA/S. 10065, Encl. 5A, d. 3.11.43, and Encl. 10A, d. 11.11.43.

Embarkation Units were authorised to form w.e.f. 1.1.1944. These were to be allotted to the first two British-operated ports to be opened. A third Embarkation Unit was to be formed to deal with R.A.F. stores passing through the British "Mulberry", and at one time it was proposed to have a similar unit operating at the American "Mulberry". It was later decided, however, that owing to a reduction in capacity of the American artificial port, there was no need for an R.A.F.

ibid. Encl. 34A d. 29.6.44

Embarkation Unit there: this unit was accordingly cancelled on 29.6.1944.

Formation of No. 85 Group

The formation of a base maintenance group had been under consideration

(1) For details of the functions of No. 85 (Base) Group see the Air C.-in-C's Directive to that Group dated 7.1.44.

consideration for many months before definite proposals for the creation of No. 85 Group were submitted to the Air Ministry.

File AEAF/S. In December 1943, however, H.Q. A.E.A.F. put forward a scheme 17030, Part I, Encl. 29A, for the setting up of one Base Air Defence Wing, certain d. 4.12.43.

Signals Units, and a nucleus of the Air Staff for the Group

ibid. Part II, H.Q. On 8th January 1944, the H.Q. of No. 85 Group was Enclosure 40A, (SD. 155 No: 76 authorised to form in full, and from that time on the various d. 1944)

units which were to constitute the Base Group were gradually transferred to the new headquarters. Many of the base administrative units had already been formed, or were in process of formation, by January, but a vast amount of training lay ahead, and further units were still to be created. The principal types of administrative unit in No. 85 (Base) Group were the

AEAF Admin. following:-  
Plan. Appen-  
dix "D".

Forward Equipment Unit (F.E.U.)  
Forward Repair Unit (F.R.U.)  
Base Signals Unit (B.S.U.)  
Mobile Signals Servicing Unit (M.S.S.U.)  
Base Signals Centre (B.S.C.)  
Supply and Transport Column (S. & T. Column)  
Personnel Transit Centre (P.T.C.)  
Embarkation Unit.

A detailed description of the functions of these units, and their role in the chain of technical maintenance, will be given later in the account of maintenance on the Continent in the build-up phase. It may be mentioned here, however, that considerable difficulty was experienced in deciding on a system of nomenclature for No. 85 Group units, which should be at once comprehensive and unequivocal.

The reasons for this difficulty lay in the fact that the chief base for "Overlord" was in the U.K., with the result that if one referred to a "base" unit one might mean either a unit located in S.E. England, or a unit in the base area on the Continent. Similarly, a "forward" maintenance unit might indicate a unit serving advanced operational units, or it might simply express the distinction between the base units on the U.K. and those which moved to the Continent, thus becoming "forward" in relation to the main base of the Operation. The matter was argued out very thoroughly in connection with the Forward Equipment

/Unit,

Unit, which was one of the most important of the Base Group administrative units. Originally it was designated the

Review of Admin. Problems, Part III, Section 3, para. 32. "Base Maintenance Unit" or "Base Equipment Unit", and is referred to as such in the R.A.F. Review of Admin. Problems.

File AEA/S.

17030, Encl. 37A, d. 27.1.44.

Then on 27th January 1944, the Air Ministry authorised its

renaming as the "Forward Equipment Unit". This term appeared to be satisfactory until in the first half of March there was doubt as to whether the F.E.U. would in fact proceed to the Continent. On the 2nd March policy decreed that it

ibid. Encl. 48A, d. 2.3.44.

would not do so, but by the 15th it had been decided that at least part of the unit was to go overseas, in order to serve

ibid. Encl. 50A, d. 15.3.44.

85 Group in a relation similar to that of the Air Stores Parks (1)

to Nos. 83 and 84 Composite Groups. Considerable discussion then ensued as to whether or not the F.E.U. should now revert to its original title, and diverse opinions were expressed by

the different formations concerned. Eventually, after consult-

ing H.Q. 2nd T.A.F. and H.Q. 85 Group, H.Q. A.E.A.F. wrote on 20th March to the Air Ministry suggesting that both the F.E.U. and the F.R.U. (Forward Repair Unit) be renamed, and called in

ibid. Encl. 58A, d. 20.3.44.

future the Base Equipment Unit and the Base Repair Unit

ibid. Encl. 66A, d. 10.4.44.

respectively. On 10th April the Air Ministry rejected this proposal, and there the matter ended. This incident merely serves to illustrate the kind of confusion which was bound to

arise as a result of the base for "Overlord" being partly in the U.K. and partly, though to a lesser extent, on the Continent.

Meanwhile the organisation and training of the "base" administrative units was going ahead, but was still far from being

complete. At 21st April, the following No. 85 Group Units

ibid. Encl. 75A, d. 21.4.44. were not yet fully formed and trained:-

Forward Repair Unit  
Forward Equipment Unit  
A Supply and Transport Column  
A Bomb Disposal Squadron  
A Personnel Transit Centre.  
An Aviation Fuel and Ammo Park  
An H.Q. Communication Squadron.

/and

1. Units attached to 2nd T.A.F., and part of the R.A.F. Forward Maintenance Organisation.

Ibid. 76A  
d. 21.4.44.  
Ibid. 77A  
d. 27.4.44.

Review of  
Admin. Prob-  
lems, Part I,  
Section 2,  
para.12.

and a few others. The Base Signals Unit was formed, but was not transferred to No.85 Group until 1st May. It was originally hoped that units would be at their pre D-Day locations by 1st February 1944<sup>(1)</sup> in order to allow for a period of settlement and further training, but it was realised that movement might be affected, firstly, by the operation of the Cover Plan, and secondly, by the late arrival of U.S. Units. The methods and procedure for the administration and maintenance of units after their arrival at their tactical locations is a subject requiring separate attention.

Admin. and Maintenance in the U.K.

AEAF Admin.  
Plan, Part II,  
para.44.

Responsibility for the administration of all units of the R.A.F. Component, while based in the U.K., rested with the respective Commanders. All units of No.85 Group which were to operate under 2nd T.A.F. in the early stages on the Continent were, however, to be transferred to the command of 2nd T.A.F. before leaving their tactical dispositions in the U.K. The object of this decision was to facilitate administration generally, and in particular to avoid any duplication of orders relating to embarkation. As was stated earlier, it was hoped that all units of the Air Forces would have arrived at their tactical locations by 1st February 1944. There were, however, the following exceptions -

ibid.  
Part III,  
para.57.

firstly, those required to fulfil the Cover Plan, secondly, certain American units reaching the U.K. after that date, and lastly, units which would be operating towards D-Day from A.L.G.'s, and would have to be accommodated on permanent aerodromes while the winter lasted. It was accordingly essential that the supply system from main depots to Air Stores Parks and Repair and Salvage Units should remain as elastic as possible.

Results of the Concentration of Tactical Air Forces in S. England.

The concentration of the British and American tactical air forces in Southern England was bound to have a marked

/ effect

(1) See R.A.F. Review of Admin. Problems C.O.S.S.A.C/R.A.F./499.  
6.10.43.

Review of Admin. Problems,  
Part I, Section 2, para's  
12, 13 & 14.

ibid. para.15.

ibid.para.18 effect on the existing organisation of Maintenance Command and  
U.S. Air Service Command in that area. One urgent require-  
ibid.para.19A ment was the immediate formation of the R.S.U's and A.S.P's,  
wanted to complete Nos.83 and 84 Composite Groups. Another  
ibid.para.19B important task was the selection of specific Repair and Equip-  
ment Depots to serve each of the two T.A.F's; this action  
ibid.para.19C involved the possibility of adjustments of stocks and equip-  
ment at the depots concerned, as they would have to continue  
to serve the units permanently in U.K. which they had served  
hitherto, while giving priority to the maintenance of the  
A.E.A.F. units. Such depots would, moreover, have to be  
ibid.para.19D organised in a way that would permit them to throw off an  
advanced element for use on the Continent at a fairly early  
stage in the operation. Approval for the setting up of a  
nucleus of these advanced depots for the R.A.F. had already  
ibid. been given before the end of 1943, but a great deal remained  
to be done. The problem of creating a supply system which  
ibid.para.19E would be fully efficient, and yet not impair the mobility of  
airfield H.Qs, A.S.P's, and R.S.U's, was one which required  
ibid. very special attention. Accordingly a constant review was  
made of all the items consumed and held by units, in order  
that reasonably reliable establishment figures could be laid  
down for each type of maintenance unit. The information  
ibid.para.19G obtained in this way was used in determining the composition  
of the Maintenance "Pack" for the A.S.P's and for the  
Advanced Equipment Depot.

Pre-Stocking of Airfields.

Since many of the airfields to be used for "Overlord"  
were in what were to be the Army concentration and assembly  
areas, where roads would inevitably be congested from about  
D.-15 until the end of the first stage of the transition to  
the Continent, it was necessary to arrange for these airfields

/ to

to hold special stocks of equipment and supplies. This measure was known as the Pre-Stocking of Airfields. Its aim was to ensure the efficient operation of units during the period of intensive air operations based in the U.K., and to make it possible at the conclusion of that period for units to cross to the Continent with their correct establishment of stores. By the method of pre-stocking these ends could be achieved without unwelcome demands on road space at a time when transport had to be cut to the minimum if dislocation was to be avoided.

ibid. para's 22 & 23.

ibid.

Maintenance Problems during Squadron Moves.

A rather more formidable problem for the maintenance organisation in the U.K. was that of providing service for squadrons after the airfield H.Q.'s and supporting ancillary units had left for their Continental locations. It was estimated that about seven days would elapse between the packing up of the H.Q.'s, and the date when their squadrons would have arrived and be ready to operate from the new airfields overseas; and this at a time when the squadrons concerned were required to operate from the U.K. at a particularly intensive rate of effort. It was proposed to meet this situation by the setting up of a duplicate airfield and maintenance organisation, to function during the period of the move, and while the airfields on the Continent were being prepared for the reception of the squadrons. The plan was to locate the squadrons temporarily at Static Stations, which would receive an adequate stock of maintenance requirements for the seven days or so that the transition involved. A number of vital personnel from each Airfield H.Q. would be retained, and the necessary balance drawn from the Static Station H.Q.'s and from other sources. With regard to salvage, supplies, and repair and replacement of equipment, the assistance of Maintenance Command would be available.

Review of Admin. Problems, Part I, Section 6, para. 28.

AEAF Admin. Plan, Part III para's 62 & 63

ibid.

Emergency Replacement Pools.

Another problem of administration in the U.K. prior to, and during the early phases of the assault, was to arrange for

ibid. para's 71  
72 & 73.

the provision of swift replacements for personnel, vehicle and equipment wastage occurring before the normal procedure for replacement could be fully operative - i.e. during the move to the marshalling areas, the actual embarkation and crossing, and the preliminary period of establishment on the Continent. To cope with this demand H.Q. A.E.A.F. was to arrange for the setting up of special reserve pools in Southern England. One pool, containing personnel and vehicles, was to be established near the Concentration Area, and was to provide replacements for casualties arising during the move of units from their tactical locations to the Marshalling Areas. In addition, an emergency pool of vital personnel vehicles and equipment was to be set up in the vicinity of the R.A.F. Marshalling Areas, to afford swift replacement of wastage occurring during embarkation, crossing, and the early build-up period.

ibid.

ibid. para. 74

The responsibility for carrying out the salvage and repair of aircraft and M.T. in the area to be vacated by 2nd T.A.F. and No.85 Group was to be assigned to No.43 Group, which would gradually take over control as the R. & S.U's (Repair and Salvage Units) and M.T.L.R.U's (M.T. Light Repair Units), belonging to 2nd T.A.F., began to move to their Continental locations.

#### The Organisation & Control of Movement

AEAF Admin  
Plan, Part IV,  
para.91.

One of the most complex aspects of the administration of the air forces in "Overlord" prior to the actual assault, was the organisation and control of movement. As has been mentioned already, the effect of amassing in Southern England the enormous forces required for the Assault was likely to mean serious confusion on the roads leading to the embarkation points, unless a very rigid and detailed control of the movement of units was exercised. During the mounting of the operation, the supreme authority for R.A.F. movement lay

/ with

with the Director of Movements, Air Ministry, working with the D.Q.M.G., War Office, and the Chief of Transportation ETOUSA.

This central control was to be effective until units had embarked.

During the development of the operation the procedure for movement was based on the provisions of a pamphlet prepared under the direction of the Q.M.C. and A.M.S.O. for issue to all units. The title of the paper was "Oversea Movement-Instructions for

Commanding Officers (Combined Operations - Short Sea Voyage)." In most cases the movement of R.A.F. Units was arranged by R.A.F. Movement Control, but where no Representatives of the latter were

available, Unit Commanders took their orders from the Army movement authority.

The overall control of movement to the Continent during the initial build-up of the expeditionary forces, when a day-to-day supervision of the phasing in of units was essential, was vested in the Build-up Control Organisation (BUCO). This body

was composed of representatives of the Commanders-in-Chief of the Allied Naval Expeditionary Force, 21 Army Group, and A.E.A.F., and was located at Combined H.Q. Portsmouth. Its function was to control the build-up and to make bulk allocations of ships and

craft to the various users, basing its decisions on the information supplied by TURCO (Turn-round Control Organisation), the Naval body concerned with the turn-round of ships and craft. Once the build-up priorities had been decided by the representatives of the Force Commanders in BUCO, the task of preparing the actual

movement programme embodying these policy decisions fell to MOVCO (Movement Control Organisation), a subordinate branch of the of the Build-up Control Organisation, which then forwarded the programme to Movement Control, Southern Command. The latter were responsible for issuing the appropriate Movement

Instructions to units regarding transfer to concentration areas, and thence to Marshalling Areas. Such instructions

ibid. para. 97

carried the authority of Force Commanders, and could not be amended by C.O's of Units.

Build-up Control Organisation

File AEAF/S.  
17156, Enclo-  
sure 1A, d.  
1.3.44.

ibid.

ibid. Enclosure  
7A, d. 22.3.44.

ibid. Enclosure  
9A, d. 9.5.44.

ibid. Page 2.  
para. 8.

Since BUCO played an extremely important part in the early months of "Overlord" a brief reference may be made to its formation. On the 1st March 1944, Group Captain, Movements, sent to the Air Officer (Admin.) A.E.A.F. a precis of a proposed organisation for BUCO. It was hoped that BUCO would be fully formed by 1st April, and action was accordingly taken to fill the various posts. Considerable discussion followed as to the proposed R.A.F. representation on BUCO, as it appeared that the Air Force was to be less adequately represented than the other two Forces. In this connection Air Vice-Marshal Edmonds, A.E.A.F. (A.O.A., R.A.F.) wrote to his Air Commodore Admin. Plans on 22nd March requesting that an R.A.F. officer of a rank equivalent to that of a Brigadier be appointed to BUCO in time to take part in Exercise "Fabius". After further correspondence Air Commodore Stevens was designated for this task, and in a report to Air C.-in-C. dated 9th May 1944, he underlined the importance for the Air Forces to be cognisant with any alterations in the build-up programme, and with any changes in priority concerning the transfer of units to the Continent. It was also desirable from the technical point of view that A.E.A.F. should be represented on BUCO by someone with a wide knowledge of specifically Air Force matters. For example, it was through the action of the R.A.F. representative at Exercise "Fabius" that an error in the number of balloons to be carried per L.C.T. was corrected, and an impracticable overloading prevented in time.

As BUCO was in control of the ground movement of all R.A.F. and U.S.A.A.F. units, its machinery had considerable ramifications and utilised a large number of bodies including a  
/Concentration

ibid. para. 3  
para. 16 Concentration Camp staffed by A.D.G.B., a Replacement Pool administered by H.Q. A.E.A.F., and a Static Movements Staff responsible to the Air Ministry. One of the main tasks of the A.E.A.F. representative

ibid. Enclosure 14B. d. 2.6.44 on BUCO was, of course, to secure adequate sea lift for the air forces. And from the Air Force point of view, the BUCO procedure worked very well; as compared with the normal methods of controlling movement overseas - i.e. through the Admiralty and War Office - the BUCO organisation was capable of a much swifter response to the unpredictable requirements which air warfare is liable to involve.

ibid. Enclosure 35A. d. 31.8.44. Accordingly, when it was suggested in July and August 1944, that BUCO might be closed down, a protest came from Main H.Q. 2nd T.A.F., asking that no such action be taken until No.2 Group and the outstanding units of No.85 Group had been phased in, which it was expected would have happened by the middle of October. The views of 21 Army Group on this matter concurred with those of

ibid. Enclosure 40A. d. 9.10.44. T.A.F., and in a memo dated 9th October, the former stated that BUCO would continue to function for an indefinite period.

Movement Prior to Embarkation.

It is now apposite to consider briefly the actual stages of movement in the U.K. up to the time of embarkation, insofar as administrative problems are involved. In chronological sequence, the three big unit movements were:-

AEAF Admin. Plan, Appendix "G".

- (1) from tactical locations to the Concentration Area;
- (2) from the Concentration Area to the Marshalling Area;
- and (3) from the Marshalling Area to the Embarkation Area;

ibid. para. 1. In the normal sense of the word, units were concentrated on reaching their tactical dispositions, but in order to carry out efficiently the first stage of waterproofing, in readiness for the sea crossing, it was desirable that all R.A.F. units should pass through one point on their journey to the embarkation areas.

ibid. The point selected for this purpose was the R.A.F. Station at Old Sarum, which was therefore the Concentration Area as far as

ibid. Part IV,  
para. 107.

ibid.

ibid. para. 108

ibid. Appendix  
"G" para. 2.

ibid. para. 3.

ibid. para. 4.

ibid. para. 7.

the R.A.F. was concerned. The job of waterproofing was an enormous and complicated one, for until ports became available, and vehicles could be unloaded directly on to dry land, all had to be waterproofed for wading to a depth of 3'9". It was anticipated that this would apply to all vehicles disembarked up to D+42. Responsibility for carrying out or supervising waterproofing was vested in the Air Ministry, which provided special personnel for the task. Arrangements for waterproofing the contents of vehicles were to be made by H.Q. 2nd T.A.F. and H.Q. 85 Group. There were three stages in the process; Stage "A" was to be performed in the Concentration Area, Stage "B" in the Marshalling Areas, and Stage "C" in the Embarkation Areas. Completion of each stage was to be indicated on the vehicle by a coloured paint mark, and no vehicle was allowed to embark unless it bore all three marks.

Units to be landed on D-Day and D+1 might not pass through Old Sarum, but through a military concentration area. Their target date for arrival there was about eight days prior to the Assault. Units to be landed after D+1 were to move into the Concentration Area about five days before they were due to land on the other side.

Control of movement in the Concentration Area was to be held by R.A.F. Movement Control, Southern Command, working closely with the representatives of D. of Movements, Air Ministry, at Combined H.Q.

Units would not normally spend more than 48 hours in the Concentration Area, and during this time administration would be carried out under arrangements made by the Air Ministry, all domestic services being provided.

In the Marshalling Areas, the principal activity was the breaking down of Units into Unit Parties, and the formation of these into craft or ship loads, in readiness for

/ embarkation.

ibid.para.8. embarkation. Road movement into the Marshalling Areas was to be normally by day, and vehicle parties were to be grouped in  
ibid.para.10. convoys of a convenient size. The Commander of each convoy was to send ahead an officer, accompanied by unit representatives, to report full details of the Convoy at the Marshalling Area Regulating Post, one hour before the convoy was due to arrive. One in  
ibid.para.12. the Marshalling Areas, the composition of the parties would  
ibid.para.13. commence, and an officer or N.C.O. put in charge of each. In addition, an O.C. Troops was to be appointed in the Marshalling Areas for each craft or ship, and he would remain in command until, arriving on the Continent, he would be relieved of his responsibility by Movement Control. Units would normally be in the Marshalling Areas from 18 - 36 hours. During this time their  
ibid.para.14. administration would be carried out under War Office arrangements,  
ibid.para.15. with R.A.F. Movement Control officers to assist in last-minute preparations. A permanent Admin. Staff would provide all domestic services.

ibid.para.17 & 18. Before leaving the Marshalling Areas, troops were to hand in all sterling currency over the value of 10/-, and would be  
ibid.para.19 issued with the necessary emergency rations, etc. Embarkation was to take place at hards or ports, and craft loads, whether of vehicles or personnel, were to be called forward from the Marshalling Area to the Embarkation points by Movement Control. In order to minimise the losses which might occur during the crossing as a result of enemy action, the principle of "balanced loads" for ships and craft was adopted. This meant that each shipload was composed in such a way that on arrival on the other side all its equipment and personnel could go into action without being dependent for their efficiency on the safe arrival of any other shipload. For instance, guns would not be shipped in one craft, and their ammunition in another, thus eliminating the possibility of having large quantities of the one item

/ arriving,

arriving, and none of the other. The value of this system was enormous, for as the tonnage of equipment which could be shipped in the early days of the assault was severely restricted, it was vital that no items should be "frozen" while awaiting the arrival of other items necessary to their use.

The Assault, Beach Organisation.

Review of Admin Problems, Part II Section 3, para.14.      It was anticipated that the first major port to be captured on the Continent would not be working to full capacity until D+17 at the earliest, and it was therefore necessary to arrange for the entire maintenance of the assault and follow-up forces to be carried out over the beaches. Moreover, as it had been decided that the American forces should have chief claim on the first major port, supplies for the British forces would continue to be unloaded on the beaches as late, probably, as D+30. This circumstance involved the setting up of an elaborate organisation to administer the beach areas concerned, and special units were formed in A.E.A.F. to deal with the requirements of the R.A.F. The functions of this beach organisation would of course cease whenever sufficient ports were available, and the permanent Base Organisation could be established in their vicinity.

ibid. para. 22.

ibid. Section 4, para. 23.

ibid.

A.E.A.F. Admin. Plan, Appendix "H", and Part V, para. 147.

ibid. Part V, para. 146.

ibid. Appendix "H"

Responsibility for the development of the British Beach Maintenance Areas, or the L. of C. terminal, was vested in Second Army. Attached to the Army Beach Groups and Beach Sub-Areas were R.A.F. Beach Squadrons and Beach Flights. Each R.A.F. Beach Squadron had the control of up to three R.A.F. Beach Flights. The Commander of a Beach Squadron (normally a Wing Commander) was responsible for liaison with the Army Sub-Area Commanders, and for the implementation of orders issued by R.A.F. H.Q. ashore concerning the disembarking of personnel and supplies. In addition he was responsible for the administration of Beach Balloon Flights, about which a word or two is relevant here.

ibid. Part V.  
para's 161,  
162, & 163.

The Beach Barrage was required to operate as soon as possible after the Beach Organisation had landed. There were, however, difficulties; firstly, if, in order to save shipping space the balloons were brought over inflated, on L.C.T's there was a danger of interference with Radar, even if the balloons were on short haul. On the other hand, the amount of space which would be used in shipping hydrogen cylinders, etc., would possibly make it preferable to phase back the establishment of the beach barrage for a while. Responsibility for maintaining the barrage in full strength once it had been set up was to be shared by H.Q. Balloon Command and H.Q. 2nd T.A.F. When shipping lift became less restricted it was intended to bring over some packed balloons, with the requisite hydrogen cylinders.

ibid.

ibid.

ibid. Appendix  
"H"

As far as possible, R.A.F. Beach Squadron Commands were to be briefed before leaving the U.K. with the daily landing programme of R.A.F. units and stores. This information was to be supplemented at later stages by R.A.F. H.Q. ashore. The R.A.F. Beach Flights were divided into sections, each dealing with the R.A.F. aspect of the work that the Beach Organisation was designed to perform. The following diagram illustrates the composition of a Beach Flight:-

ibid. Appendix  
"H", para. 5.

ibid. para. 6.

R.A.F. BEACH SQUADRON H.Q.					
Beach Balloon Flights (Admin. only)		Beach Flight		Beach Flight	
Landing Section.	POL Section.	Ammo Section	Equipment Section	Provost Section	M.T. Repair Section

As was stated earlier, the Beach Maintenance Areas were organised on a purely "ad hoc" basis, and as soon as the Rear Maintenance Area was opened, and brought under the control of H.Q. 21 Army Group, the Beach Areas were to shut down, except

/ insofar

ibid.Part V,  
para.147.

ibid.para.148.

Maintenance  
Project, Section  
1, para.7B.

AEAF Admin.Plan.  
Appendix "F",  
Serials 14 & 15.

Maintenance  
Project, Appendix  
"C", Serial 13,  
para.1.

ibid.Section I  
para.14b, &  
para.36.

ibid.para.14C.

ibid.para.13

ibid.para.38.

insofar as they continued to be used as Stores Transit Areas. Similarly, once the R.A.F. Base Group was established, all R.A.F. Units in the Base Sub-Area would be transferred from the control of 2nd T.A.F. to that of A.O.C.85 (Base) Group. The date at which this would take place would depend of course, on the tactical situation, but when the boundary of Second Army was forward of the Rear Maintenance Area, H.Q. 21 Army Group was to take over the rear, and the four Beach Sub-Areas and the one Base Sub-Area would come under its command.

Broadly speaking, the main responsibility for the development and control of the Beach Area and Base and L. of C. facilities was an Army one, and the part of the R.A.F. was to provide essential elements in the Army organisation. In the Base and L. of C. the R.A.F. of course controlled its own units, and where there was economic justification provided its own facilities.

Clearance of the beaches was the task of the Beach Groups. The R.A.F. were not normally required to provide transport for their requirements between the beaches and the forward areas, except where special R.A.F. vehicles were involved. During the period D to D+41 Second Army were to be responsible for phasing in daily maintenance requirements and initial stocks required for reserves, and R.A.F. requirements were to be covered by the Second Army programme. After D + 15 H.Q. 21 Army Group were to phase in all stores requirements, and the R.A.F. were to submit demands direct to this H.Q. The scale of R.A.F. reserves to be landed was laid down by H.Q. A.E.A.F., and conformed generally with the Army scale. In the initial stages of the operation it was considered unlikely that air lift would be available for the transportation of stores, except in cases of emergency, but every effort was to be made to provide this additional form of transport later on.

AEAF Admin Plan, Part V, para. 152.  
ibid. para. 157.  
Maintenance Project, Section I, para. 47.  
ibid. para. 48.  
ibid. para. 74.

With regard to aviation POL, explosives and oxygen requirements were calculated by H.Q. 2nd T.A.F., and the supply arranged by the Air Ministry through Maintenance Command channels. The movement of initial stocks from the Beaches to the R.R.S's and A.L.G's was an Army responsibility, although at a later stage it was possible that the R.A.F. would be able to assist in providing transport for pre-stocking purposes. During the early days all aviation POL was to be supplied in containers, and a minimum of 14 days' reserve at sustained rates was to be established by D+41. Bulk supply was to be introduced as soon as possible in order to reduce the tonnage coming over the beaches. This could not be done, however, until adequate storage capacity was available. Bulk storage was to be established at Port-en-Bassin, and the Petrol transported to airfields in special lorries. R.A.F. explosives and ammunition were to be held in R.A.F. air ammunition parks within Base Ammunition depots, and all labour and transport needed at these parks was to be provided by the Army.

In the period before R.A.F. repair units could be brought to the Continent the provision of adequate repair and recovery services was a major problem of the administration of the beaches.

ibid. para. 83a, and Appendix "C", Serial 29  
AEAF Admin Plan, Part V, para. 176.

The Army was responsible in these early days for the salvaging and repair of R.A.F. M.T., spares being provided by the R.A.F. The R.A.F. however, had to deal with R.A.F. mechanical equipment other than M.T., and had to supply experienced personnel for the purpose. A certain amount of cannibalism was unavoidable at first, but such drastic action was not to be permitted except as an emergency measure.

Maintenance Project, Section I, para. 64.

The procedure concerning captured enemy air equipment including Radar equipment was that it should be reported to the Air Intelligence Sections of T.A.F., who would dispose of it. Enemy aircraft in serviceable condition would be guarded until

taken over by these Sections, and Airborne and Paratroop equipment would be dealt with by the Army.

The R.A.F. Forward Maintenance Organisation before the Establishment of the Base Group.

Review of Admin. Problems, Part III, Section 1, para. 1.

ibid.

The operational plan for the initial stages of "Overlord" aimed at the establishment of a firm bridgehead on the Continent, and the capture of a port or ports, followed by a rapid advance towards the German frontier. It was an integral part of the plan that air formations should be as mobile as possible, and a highly flexible maintenance organisation was accordingly necessary. The whole success of the great venture was dependent on our ability to sustain a regular flow of supplies and equipment for the forces which went over during the assault and follow-up phase, but this had to be accomplished with strictly limited shipping capacity. It was therefore impossible to consider the establishment overseas of a permanent and complete base maintenance organisation until some months after D-Day, and it was accordingly necessary to evolve a system of supply and replacement to tide over the period before No. 85 (Base) Group left the U.K.

ibid. para. 2.

Review of Admin. Problems, Part III, Section I, para. 5.

AEAF Admin Plan Part II, para 44.

During this time the main burden of R.A.F. maintenance fell on 2nd T.A.F. The two Composite Groups, comprising day fighters and army support and reconnaissance squadrons, were the first to operate on the Continent: the night fighters and the Light Bomber Group were due to arrive later, and in the meantime continued to operate from the U.K. As early as possible the base defence units of 85 Group were to be transferred to the Continent, but not the administrative units, and until these could be phased in 2nd T.A.F. was entirely responsible for all R.A.F. administration on the far side.

The first aircraft servicing units to be put ashore were the Servicing Commandos. These units were

/ attached

ibid. Part VI, para. 198.  
Review of Admin. Problems, Part III Section 2, para's 12 & 13

attached to the Composite Groups, and their function was to cater for Squadrons operating from A.L.G.s. They were small and very mobile units, trained in amphibious operations, and composed chiefly of technical personnel. Their duties comprised the servicing of a variety of aircraft up to Daily Inspection standard, and for this purpose they carried a stock of 14 days' requirements of essential spares. They were also capable of executing light repair work. After the arrival of the Airfield H.Q. the primary task of the Servicing Commandos was finished, and they could then be moved on to a new A.L.G., in the forward Area, or used to strengthen Repair and Salvage Units or Airfield H.Q.s. Replenishment of the stocks held by Servicing Commandos was to be obtained in the form of packs direct from the U.K., without demand, for even when the Air Stores Parks<sup>(1)</sup> had been landed, the stocks held by them were not considered adequate to meet such a comprehensive requirement.

#### Airfield H.Q.s.

An Airfield H.Q. was a large unit established on an airfield for the servicing and maintenance of squadrons.<sup>(2)</sup> Units of this type were attached to 2nd T.A.F. and to 85 (Base) Group. They held a 7 days' stock of spares, and were equipped to carry out servicing up to, but excluding, major inspection standard. They were not intended to carry out aircraft repairs requiring more than 48 hours to complete, or M.T. repairs requiring more than 24 hours to complete. The first Airfield H.Q.s to go across were to be fully mobile, but those phased in later required the assistance of a supply and Transport Column if they had to move en bloc. Replenishments of spares and equipment were demanded from Air Stores Parks.

/Air

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(1) See below

(2) for details of Airfield H.Q.'s see AEAF Admin. Plan, Part VI, para's 199, 200, & 201, & Appendix "L" para.'s 2, 3 & 4, and Review of Admin. Problems, Part III, Section 2, para's 14 & 15.

Air Stores Parks

File FC/S. 35726/  
Eq. Enclosure  
d. 28.8.43 -  
"Formation of Base  
Maintenance Unit."

AEAF Admin. Plan,  
Part V, para. 168,  
& Review of Admin.  
Problems Part III,  
Section 2, para. 16.

Responsibility for the administration, both technical and operational, of A.S.P's, lay with 2nd T.A.F., although Maintenance Command acted in an advisory capacity in dealing with certain special tasks. The A.S.P's were to be landed at the same time as Airfield H.Q.'s and were designed to meet the requirements of two Airfield H.Q.'s and one Repair and Salvage Unit. They were mobile units and held a month's stock of spares, equipment and technical and domestic stores. In addition they held the bulk of the spares required by M.T. Light Repair Units, and Mobile Sigs. Servicing Units, except for certain special radio items needed by the latter, which were obtained from the Base Signals Unit. Replenishment for A.S.P's was demanded direct from the Forward Equipment Unit, and despatch of stores was to be arranged by sea or air, according to the degree of priority, and the air lift available.

Repair and Salvage Units

AEAF Admin. Plan,  
Part V, para. 174.

ibid. para. 175.

ibid. Part VI,  
para. 202.

During the period when there were only the Servicing Commandos on the Continent, very little repair and salvage could be undertaken, but it was planned to put ashore advance salvage sections of R.S.U.'s as early as possible, so that landing strips could be kept free of damaged aircraft. The complete R. & S.U.'s were to come over with, or immediately after, the Airfield H.Q.'s, and from then on more comprehensive repairs were practicable. Control of R. & S.U.'s was exercised by 2nd T.A.F. They had two principal functions:-

- (1) close technical support of the airfields for which they were responsible.
- (2) collection and disposal of salvage within specified areas.

Review of Admin.  
Problems, Part  
III, Section 2,  
para. 17.

They were established on a scale of one per six squadrons and were located as near as possible to the airfields which they served. Repairs requiring longer than 7 days to

/complete

AEAF Admin. Plan,  
Appendix "L", para.'s,  
5, 6 & 7 and Part  
VI, para.'s 202-  
206.

complete were not within the scope of the R.S.U's, and aircraft in this category were if possible to be returned to the U.K., until such time as the Forward Repair Unit was brought over and could deal with them on the Continent. During this interim period cannibalisation might be necessary, but was not to be allowed except as an emergency measure, since the stripping of useable parts from a damaged aircraft meant that its eventual repair, if practicable at all, would be a far longer job than if it had been left untouched.

ibid. Part V,  
para. 176

#### M.T. Light Repair Unit

Review of Admin.  
Problems, Part III,  
Section 2,  
para. 25.

Two M.T.L.R.U's were attached to each of the Composite Groups in T.A.F. They performed services for M.T. similar to those performed by the R. & S.U's for aircraft. Their function was to hold a small pool of replacement vehicles, and to carry out repair and salvage and major inspection of all M.T. They held a stock of 7 days requirements of "quick turnover" items, and obtained replenishments from A.S.P's. Complete overhauls, and repairs taking longer than three days were outside their province and were to be undertaken by the Forward Repair Unit.

AEAF Admin. Plan,  
Part VI, para.  
207.

ibid.

#### Mobile Signals Servicing Units.

Review of Admin.  
Problems, Part III,  
Section 2, para.  
26.

These units were established on the basis of one for each Composite Group and one for 85 Group. Their functions were to repair ground wireless and radar equipment "on site", and to hold an operational reserve of complete signals units to replace casualties. They were to hold in addition a 7 days stock of "quick turnover" items, replacements for which were to be demanded on A.S.P's (specialist radio items excepted). Repairs beyond the capacity of an A.S.S.U. were to be returned to the Base Signals Unit.

ibid.

ibid.

#### Supply and Transport Columns.

ibid. para. 27.

Each Composite Group had an S. & T. Column, divided into six sections, each consisting of 48 vehicles. The function of the column was to provide a central pool of load carrying vehicles, for the purpose of transporting

aviation P.O.L., S.A.A., and bombs from the Air Ammunition Parks to airfields, and for assisting in the movement of non-mobile units. The delivery of all R.A.F. requirements of

IBID. Appendix "E" packed P.O.L., Ammunition, Stores and Supplies to agreed points para. 1., and AEAF Admin. Plan, within a distance of 40 miles from R.A.F. units was an Army Appendix "F", Serial 12, para. 1.

responsibility. Bulk P.O.L. was to be delivered direct to Airfields by the Army. The R.A.F., however, were responsible for distribution from the agreed points to units. Further, R.A.F. representation was provided at all levels in the Army supply organisation.

#### R.A.F. Base Maintenance Organisation.

In planning the maintenance organisation for the

Review of Admin. R.A.F. for the build-up phase and subsequent stages of "Over-Problems, Part. III, Section 3, para. 29.

lord" it was decided that only one Base would be necessary.

It was, however, desirable that the units of the R.A.F. Base Group should be organised in a way that enabled them to move in echelons, thus facilitating any change in the location of the Base Area resulting from the capture of further ports. In the early days of the assault the Base Area had to be accessible, by road or rail, from the beaches and from the first captured port, but if and when further ports became available, it was conceivable that the L. of C. as a whole might be shortened if the Base Area were transferred to the vicinity of these ports. Accordingly, the initial base maintenance organisation was to be set up on a purely temporary footing, and in matters such as accommodation only a minimum protection was to be provided.

ibid. para. 40.

ibid. para. 41.

The policy control of the R.A.F. Base Maintenance Units was exercised by H.Q., A.E.A.F., but the Base Group H.Q. was responsible for the local administration of the maintenance units in the Base Area, and also for the control, both operational and administrative, of the static fighter defence organisation.

ibid. para. 30.

ibid. para. 31.

File AEAF/  
S. 21000,  
Enclosure 1A, para. 1. d.  
7.1.44. The staff of A.E.A.F. were taken to take an active part in planning the layout of the Base Area, and were responsible for representing R.A.F. requirements to the Army who dealt with the

AEAF Admin.  
Plan, Part IV,  
para. 292. requisitioning and hiring of land and buildings. The negotiations were to be carried out by G/Capt Quartering, under the supervision

File AEAF/  
S. 21000,  
Enclosure 1A, para. 2. d.  
7.1.44. of Air Commodore, Admin. Plans. Among the units to be established in the Base Area were the Forward Equipment Unit,<sup>(1)</sup> the Forward Repair Unit, the Base Hospital, Base Signals Centre, Personnel

ibid. Enclosure 1A, Appendix "A". Transit Centres, Mobile Signals Servicing Units, Supply and Transport Column, Aircraft Reception Unit, and Embarkation Units.

The Forward Equipment Unit.

Review of Admin  
Problems, Part  
III, Section 3,  
para. 32. Since it was essential that the Air Stores Parks attached to the Composite Groups should be fully mobile, the amount of stock that they could carry was strict limited, and although they were

ibid. to start with a month's reserve of requirements it was very probable that this stock level would be depleted more quickly than it could be replenished. If it had been practicable to provide a regular air supply service from the U.K. during the early days, the A.S.P's would have been able to fulfil their functions without recourse to any intermediary supplier, but as this was impossible, and as

ibid. transport by sea was altogether too slow for the purpose, the problem had to be solved in another way. Accordingly it was decided that a large unit should be set up as part of the permanent base organisation with a stock of one month's requirements for all R.A.F.

ibid. para. 33. units in the theatre. Its range was to include all R.A.F. stores, equipment and spares, including items common to both the Army and R.A.F., but not P.O.L., ammunition and bombs. All demands from

ibid. para. 34. A.S.P's were to be submitted to the F.E.U., and the latter was to obtain its replenishments from a specially allocated Maintenance Wing in the U.K. At a later stage, "common user" items were to be

/ demanded

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(1) Originally named the Base Maintenance Unit, or Base Equipment Unit. See P. 163. & P. 164. above.

ibid. demanded from Army depots in the base area, and not direct from  
File FC/S.35726/ the U.K. The F.E.U. was also to be responsible for the collec-  
Eg. Enclosure tion and delivery of R.A.F. stores from/to port or railhead.  
d. 28.8.43.

ibid. It was to be a transportable, but not a mobile unit, and to  
consist of an Admin. H.Q. and 6 stores groups, a case-making  
section and Provision Office. Responsibility for the formation  
and buildup of the F.E.U. rested with Fighter Command, the  
technical control being exercised by Maintenance Command, who  
also gave advice on specific matters. The nucleus for the  
ibid. F.E.U. was approved as early as 16th September 1943.

The Forward Repair Unit.

AEAF Admin. Plan.  
Part VI, para. 209

The F.R.U. was the technical link between the Repair  
and Salvage Units and M.T. Light Repair Units, and the  
Aircraft Repair Organisation in the U.K. It was not intended  
to undertake work which could without difficulty be returned  
ibid. para. 210. to the U.K., and it was to be provided with full Depot

ibid. Appendix  
"L", para. 6.

addition to its services to the air forces established on the  
Continent, the F.R.U. was to be responsible for the salvage and  
repair on site of Transport Command aircraft, and of aircraft  
of No. 38 Group. It was further intended to carry out a certain  
ibid. Part VI,  
para. 211.  
ibid. amount of salvage and repair work on Bomber Command aircraft.

The Base Signals Unit.

ibid. para. 213

The Base Signals Unit was to be the main ground  
wireless and radar equipment repair organisation in the  
theatre. Its functions included the execution of repairs  
beyond the capacity of the Mobile Signals Servicing Units,  
the holding of a reserve of complete signals units and vehicles,  
and the installation of fixed wireless and radar stations in  
the Base Area and along the Lines of Communication.

ibid. Appendix  
"L", para. 14.

An illustration of the way in which the chain of R.A.F. technical maintenance units operated in "Overlord" may be given in connection with the demand for the No.40 Group range of equipment in stock for T.A.F. In the period before the Forward Equipment Unit moved to the Continent the procedure was that units in the field demanded on the A.S.P's, the A.S.P's then demanded on the F.E.U., located in the U.K., and the F.E.U. drew supplies from the various units of the U.K. Maintenance Organisation. Once the F.E.U. was located on the Continent the chain of demand was as before, except that the F.E.U. itself obtained its replenishments from No.3 Maintenance Unit, which acted as a collection point for demands in the way that the F.E.U. had served hitherto.

M.T. Replacement

AEAF Admin. Plan,  
Part VI,  
para. 225.

A reserve of M.T. vehicles was to be held in the M.T.L.R.U's attached to 2nd T.A.F., and this reserve was to be maintained at the agreed level by demands on the F.E.U. Before, however, the M.L.T.R.U's could be established on the Continent units were to make direct demands, by the most expeditious method, on the R.A.F. Station at Old Sarum. The M.T. reserve for No.85 (Base) Group was to be held at the Forward Repair Unit.

AEAF Admin. In-  
struction  
No.40, para.1.  
d. 4.6.44.

A rather bigger problem was that of arranging for swift replacement for aircraft casualties. Each Wing was to hold a small pool of replacement aircraft at the A/c Reception Flight in the Repair and Salvage Unit. New and repaired replacement aircraft from the U.K. were to be flown to the Aircraft Reception Flight where they would be brought up to operational standard. The rate at which aircraft wastage on the Continent could be made good was dependent not only on output of new machines, but on the efficiency of the U.K. repair organisation. As it was highly probable that in the normal course of transfer from the Continent to the U.K. a damaged aircraft would sustain additional injury - for instance, in the loading on to and

Review of Admin  
Problems, Part  
III, Section 3,  
para.42.

ibid. para.43.

File AEAF/  
S.19326, En-  
closure 15A,  
para.2. d.  
2.6.44.

removal from a salvage vehicle - a special L.C.T. shuttle service was instituted which enabled salvage trailers, "Queen Marys", to be transported complete with their freight from the collection point on the Continent to the repair depot in the U.K. Salvage trailers withdrawn in this way from the Continent were replaced by incoming trailers bearing loads of equipment. A unit known as the Base Salvage Centre was set up to control this traffic movement. Responsibility for the loading of vehicles on to L.C.T.'s lay with the appropriate Beach Unit, and the Beach Squadron Commander had the task of calling forward the vehicles from the Beach Salvage Centre.

Division of Responsibility between the Army and the R.A.F.

ibid. para. 3.

ibid. para. 6.

Maintenance Project, Appendix "C" para. 1.

It has always been an accepted principle that services of common usage in the Army and the R.A.F. should be provided by one Service for the benefit of both. The factor determining which Service was to have responsibility in a particular case was economy, and the Service which was more able, by reason of resources of manpower, equipment, organisation and experience, to perform a service efficiently, was assigned responsibility for it. This principle was adhered to in the main in the planning for "Overlord", but it was inevitable that certain modifications should be necessary, to meet the conditions of specific theatres and types of operation. In the detailed application of the principle it was found that two important requirements would have to be met:-

ibid. para. 2.

ibid. para. 3.

- (1) the provision of R.A.F. elements in certain Army units which were to provide services for common usage;
- (2) the provision by the Army, in certain circumstances, of services for the R.A.F. in areas where these services are not required by the Army.

ibid. para. 4.

In the majority of cases it is more economical for the Army to provide services of common usage, partly because

Army requirements are on a far bigger scale than those of the R.A.F., and partly because the Army is often better equipped to deal with the matter - for instance, the Royal Engineers was obviously the right organisation to carry out airfield construction.

ibid. para. 6. The prime consideration in administrative planning for "Overlord" was, however, to cut the transport commitment in the early stages to the bare minimum, and it was therefore necessary to aim at the utmost pooling of resources by R.A.F. and Army, even at the cost of administrative convenience.

ibid. Appendix "C", Serial 11. It was on this basis that the detailed policy for the division of administrative responsibility between the two Services was worked out. One of the most important matters covered by this policy was responsibility for Movement Control. In principle, Movement Control is a joint service, but the Army, as main user, had the main responsibility. The general policy and organisation was formulated by the Army in conjunction with the R.A.F. Movements Service, and R.A.F. Movements Officers were established wherever necessary. Group Captain (Movements) was responsible both to the Deputy Quartermaster General, who controlled movement and transport in the whole of the British theatre, and to the A.O.C. regarding the movement of R.A.F. personnel and material. At ports handling R.A.F. requirements, R.A.F. Embarkation Units were provided, who received their instructions from the Port Commandant. Apart from this provision of specialist personnel, the R.A.F. had no responsibility for the transport organisation at ports and docks, the only exception being the provision of M.T. for conveying certain large aircraft parts.

ibid. Serial 12 With regard to road transport, the Army had the task of delivering all R.A.F. stores, supplies, ammunition, bombs and packed P.O.L. to agreed points within 40 miles of R.A.F. units. The R.A.F. was responsible for collection of goods from these

points, and for subsequent distribution to units. The carriage of loads necessitating special R.A.F. vehicles, such as "Queen Marys", was an additional R.A.F. responsibility. Delivery to airfields of aviation P.O.L. in bulk was, however, an Army job. Finally, it was at all times essential for the R.A.F. to give adequate notice to the Army authorities of their road transport requirements, for otherwise the greater speed at which the air forces could concentrate might have involved a time lag in the provision of the requisite supplies.

ibid. Serial 17. In the matter of providing labour the R.A.F. was responsible for meeting the requirements of all R.A.F. units, except for the supply of unskilled military labour and the enrolment of labour in occupied territory. All Engineer Works Services, were, however, provided by the Army, the only R.A.F. responsibility being the notification of requirements, and the provision of portable hangars, and items made to special R.A.F. specifications, such as fittings for airfield lighting..

ibid. Serials 20 and 21.

AEAF Admin. Plan, Part IV, para. 294.

Maintenance Project, Appendix "C", Serial 23.

The acquisition and allotment of accommodation for both services was an Army task, and the Army was further responsible for all the administrative arrangements connected with the hiring and purchase of land and buildings. Payment of billets for R.A.F. personnel was, however, the responsibility of the R.A.F.

The reception and disposal of salvage was also arranged by the Army, R.A.F. advice being sought with regard to aircraft and other air technical matters. The R.A.F. was in charge of the delivery of salvage to the appropriate Army Depots or Dumps, except in the case of aircraft damaged beyond repair, which were collected by the Army after all serviceable spares had been removed by R.A.F. personnel.

ibid. Serial 25.

The division of duties with regard to Aviation P.O.L. was rather more complex. In the case of Bulk P.O.L., the R.A.F. was responsible for provision at the source of origin, and for allocation between the various theatres of war. They also controlled the quality of bulk P.O.L., and provided all facilities for handling it at airfields, apart from airfield tankage, which was erected and maintained by the Army. The Army was also responsible for control of storage in the Base and L. of C., and for bulk delivery to airfields. R.A.F. personnel, acting in an advisory capacity, made recommendations to the Army as to R.A.F. reserves, and supervised the inward and outward movement of stocks. The arrangements for packed aviation P.O.L. were broadly the same as for bulk, except that the Army did not deliver it from "door-to-door", but only to agreed points within 40 miles of the R.A.F. consumer Unit, where it was collected by the R.A.F. Empty containers were returned by the R.A.F. to dumps, where they were picked up by the Army.

Maintenance Project, Appendix "C", Serial 26.

The provision of M.T. P.O.L. from the source of origin was an Army responsibility, and the latter were also responsible for delivery to agreed points within the usual 40 mile radius, and for control of qualities and grades. The R.A.F. provided transport for subsequent collection, and were under the obligation of notifying the appropriate military H.Q. as to impending changes in R.A.F. dispositions which might affect R.A.F. requirements.

ibid. Serial 27.

The R.A.F. was the agreed provider of all stores and equipment peculiar to the R.A.F. (excluding M.T.), and of the appropriate types and quantities of R.A.F. explosives, bombs,

ibid. Serial 28.

S.A.A. and pyrotechnics. The Army took charge of storage for the latter in the Base and L. of C., provided the necessary labour for handling, and transport up to agreed points. Provision of

ibid. Serial 24.

supplies such as hospital comforts, fuel, and disinfectants was entirely an Army job, the one exception being emergency flying rations.

ibid. Serial 29.

All repairs to R.A.F. M.T., and the provision of spares for this purpose, were tasks generally undertaken by the R.A.F., except in certain theatres where the R.A.F. element was so small as to make a separate organisation uneconomical. During, however, the interim period between the establishment of an airfield and the arrival of the M.T.L.R.U., 1st and 2nd echelon repairs to R.A.F. M.T. were undertaken by the Army, spares being obtained from the R.A.F.

ibid. Serial 36.

Under the arrangements made for the care of casualties, the Army had full responsibility back from casualty clearing stations, and the R.A.F. for areas forward of Army casualty clearing stations. The R.A.F. was also responsible for the supply of medical stores peculiar to the R.A.F., and for the provision, where necessary, of R.A.F. hospitals in established theatres. The procedure for the evacuation of casualties by air was that the Army undertook transport to the special R.A.F. Mobile Field hospitals which were located near airfields used for air evacuation, whereas the R.A.F. was concerned with the treatment of casualties from the time at which they were admitted to the R.A.F. hospital until their dispatch from the airfield on arrival in the U.K. The Army was responsible also for the transport of casualties after disembarking from airfields to Army medical units.

### Conclusion

In concluding this monograph on air aspects of the Administrative planning and preparations for "Overlord" (and particularly the R.A.F. share in them) it is emphasised that the project, from the earliest days when the small band of Planners worked in Norfolk House until the triumphant conclusion of the campaign in North-West Europe, must be regarded as one whole. Allied Strategy changed its direction from time to time; operational plans came and went; but the broad course of Administrative planning after the U.S.-British decision in April 1942 that their main effort against Germany should consist of an invasion of N.W. Europe using Britain as a base, had to proceed whatever the operational plan. When the final plan of operations had been decided, it had to meet the limitations set by material resources, and these in large measure were the results of Administrative preparations. Granted that an invasion of the Continent was to be undertaken, long-range Administrative preparations had to be undertaken at the earliest possible stage.

The R.A.F. was fortunate in that throughout the period the chief architects of this Administrative planning did not change. In its higher policy, in the councils of the three Services, and in its contacts with Statesmen, with the Americans and with other allies, it was guided by the hand of Air Chief Marshal Sir C.L. Courtney as A.M.S.O. In the detailed Administrative planning of "Overlord" during the later stages, as well as in the outline planning at the beginning, Air Vice-Marshal C.H.K. Edmonds played the most important part. He took charge of the Special Planning Staff set up in May 1942 by A.C.A.S(P) - Air Vice-Marshal Slessor. Later, he left Norfolk House for Bentley Priory to become A.O.A. at Fighter Command and then at Headquarters A.E.A.F. Air Commodore Trinder was also intimately connected with Administrative planning from the time he joined the R.A.F. Branch of C.O.S.S.A.C. until he became Air Commodore Admin. Plans (A.E.A.F.) working in conjunction with other Planning Staffs at S.H.A.E.F.

Three main features of all this planning and of these preparations were fundamental. The first of these was the previously agreed relative responsibilities of the Army and the Air Force in the field which were closely adhered to and which, in practice, worked excellently.

Secondly, it was decided at a very early date that the main base for the operation should be the United Kingdom and that the main Administrative Units should move to the Continent only when it was clearly advantageous to do so. Thirdly, it was decided that since the U.S.A.A.F. and the R.A.F. respectively depended on separate Administrative systems no advantage would be gained by attempting to combine them. Nevertheless, there was considerable mutual aid given by each to the other.

The amount of work done by the Administrative Staffs during the six months before the Assault was launched was enormous. In view of the fact that when Headquarters, A.E.A.F., came into existence on the 16th November 1943 the British Tactical Air Force and No.38 Group had been built up to only 35% of their strength while the U.S. 9th Air Force was up to only about 25% of its final strength, and that they had to be completed and deployed while operations were being conducted in a rising crescendo, it will be appreciated that a tremendous administrative task was successfully discharged.

The race against time, during which the Air Forces were prepared for the opening of the campaign, involved in the first place, a comprehensive Plan whereby aerodromes and landing grounds in the South of England were progressively evacuated by Units not participating directly in "Overlord" and occupied by "Overlord" forces as the British Air Forces were built up and as U.S.A.A.F. Units arrived from overseas. It also involved the evolution of a procedure and technique to ensure the rapid construction of airfields and the moving forward of Air Forces after the first foothold had been secured on the Far Shore. This also meant that the 2nd Tactical Air Force had to be provided with a fully mobile organisation for repair and for the supply of R.A.F. equipment in substitution for the services normally provided by R.A.F. Maintenance Command in the U.K.

One of the greatest Administrative tasks was that of re-equipping 110 R.A.F. Squadrons with the most up-to-date types of aircraft. Another was that of changing 2nd T.A.F. from the Home systems of personnel Administration and Accounting to the Overseas systems within a short space of time. This included the establishment of a Base Personnel Staff Office and a Base Accounts Office. It also included the formulation and issue of some 250 new type establishments and a great number of amended ones to complete the organisation necessary for the whole British element of the Expeditionary Air Force covering approximately 232,000 personnel. United States personnel in the A.E.A.F. numbered about 181,000 on D-Day.

All necessary re-organisation had to be cut and dried before the Assault was launched. After D-Day came the test. The principal Administrative task was then to ensure the speedy and smooth transfer of Air Forces to the Continent without a pronounced fall in the scale of operations based on the U.K. This transfer, together with that of the stores for immediate use and for building up reserves, was effected by means of the inter-Allied and inter-Services machinery known as B.U.C.O. and M.O.V.C.O. Even when their normal maintenance organisation was in process of transfer, special arrangements ensured that squadrons could continue to operate at full effort either from the U.K. or from the Lodgment area. Arrangements were also perfected for the urgent replacement of personnel casualties, aircraft, and equipment. The institution of a scheme for salvaging damaged aircraft (and certain other equipment) and of returning them to the U.K. Repair Organisation by trailer and L.C.T. was a notably successful achievement. The organisation for emergency supply by air and for the use of Transport aircraft for the air evacuation of casualties, was also a good example of the success of Administrative planning. Some aspects of Administrative planning, such as the story of the provision of Signals, Air/Sea Rescue, and other Services, are not dealt with in this narrative. They should be

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sought for either in other Air Ministry narratives or in the Record Books of the Headquarters or lower formations concerned.

When the preparations had all been completed and the battle had been opened across the Channel, the real test came. The speed of our build-up, its smoothness and flexibility even when weather made conditions most unfavourable, bore eloquent witness to the thoroughness of the preparations and the forethought of the Planners. Not even the failure of the ground forces to enlarge the Lodgment area and thus provide the airfields as planned, prevented the Air Forces from producing their planned scale of effort. And finally there came the most severe test of all, when the Armies broke through and drove across North-West Europe right up to the German frontier in a few short days. The 2nd Tactical Air Force, although taxed to the limit, was always able to perform all that it was asked to do and never failed to keep up with the advance.