SECRET.

DESPATCH BY

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COMMANDING

T I G E R F O R C E

1945

FOR BRITISH PARTICIPATION

IN THE BOMBING OF JAPAN.

DECLASSIFIED

S E C R E T.

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INTRODUCTION.

The Project.

1. The project was to base a British Commonwealth Heavy Bomber Force, (named "TIGER" FORCE) of 400 aircraft in the PACIFIC to participate with the Americans in the direct attack on JAPAN. In effect, therefore, "TIGER" FORCE would be a small Bomber Command, but with the many implications inherent in it being based upon a small island in the PACIFIC 14,000 miles by sea away from its home base. It had to take with it the equivalent of Maintenance Command, Civil Repair Organisation, Signals Groups, G.P.O. Services, the services of makers of aircraft, accessories and equipment, various Research Establishments etc, which in ENGLAND were to hand for utilisation at short notice. Everything, in fact, had to be taken with it, and except for a few spares by air, it would have been two and a half months away by sea from its sources of supply.

2. It was an ambitious undertaking. In addition to the Air Force services, Army construction and Administrative services were needed equivalent in strength to an Infantry Division.

The Need for Early Planning.

3. Perusal of this Despatch will show that the project was first mooted on a staff level as long ago as the end of 1943; it was revived again, and we were definitely committed to it, by the Prime Minister at the QUEBEC Conference in September, 1944. It was, however, a Phase II commitment, all energy and attention being concentrated on bringing the German War, Phase I, to a speedy and successful conclusion. The Phase II commitment should be noted.

4. The magnitude of the task, however, was sufficient to emphasise the need, in Phase I, for thorough and early planning. The date forecasted for the end of the Japanese War was the end of 1946, but with the end of the German War in May, 1945, events in the PACIFIC moved very rapidly. If we intended to deploy on OKINAWA, for example, we had to make an early bid for airfields as otherwise the airfields would have been taken up by the Americans and we would have to await the future but doubtful development of further air bases in the RYUKYUS before being able to deploy. Our first two squadrons were to begin dropping bombs on JAPAN on 15th October. We were, therefore, being hustled along with the impetus of the American development of airfields and the early date of our deployment left us with quite an inadequate period of time in which to make our plans.

Logistic Support.

5. The solution to the problem of logistic support (an American term for complete support services) was particularly difficult because it could only be accurately computed when the area of deployment was known and subsequent negotiations with the American Commander concerned had been completed. There were many changes in the area of deployment each having its own and intricate problems. These changes too, as will be seen, were rapid.

/6. Unfortunately

6. Unfortunately it was assumed at the outset that the bases would be constructed by the Americans and there may have been excellent reasons for this, but on 2nd February, Major General L.S. Kuter (Assistant Chief of the U.S. Air Staff, Logistic Planning) left us in no doubt as to how the Americans were thinking. He stated to the Chief of the Air Staff that whilst the Americans would welcome our participation in the bombing of JAPAN, we should have to support ourselves "from tidewater to aircraft". This meant the provision of stevedores, port construction and port operating companies, and all other constructional troops for the building of roads, airfields, communications, petrol farms and pipelines etc. on the shore. In fact we would require at least 15,000 specialised and engineer personnel wherever the Force deployed and these had been in short supply for a considerable time. They were insufficient to meet all requirements.

7. Only when we were able to examine the problem in relation to some specific base did we discover the cost. This was in regard to our projected base in the CAGAYAN VALLEY, LUZON, utilising the port of APARRI which was negotiated in WASHINGTON in March, a short time after the YALTA Conference. As a result of these negotiations the Principal Administrative Officers reported on the proposal to the Chiefs of Staff on 16th April. They stated that the Army had made no provision for "TIGER" FORCE and that if the planned commitments at that time were to take place the project was impracticable.

8. Thus we were confronted by one and the first of the many problems of providing logistic support, and it was brought about by the fact that the Royal Air Force is mainly dependent on the Army for the services outlined in para. 6.

9. Nearly two months later, when the Principal Administrative Officers reported another examination of the final proposal to base "TIGER" FORCE in OKINAWA, the Royal Air Force was set to provide 7,500 constructional personnel and the Royal Canadian Air Force 2,500. Contribution from the Army was estimated at 12,390 constructional and administrative personnel. We were therefore being hustled along, as I have already stated, by the impetus of American planning and we had to follow as best we could if we were to take advantage of the bases then on offer to us. I consider we did well in spite of the fact that so little time was available for detailed planning. We were constantly working against time.

10. It should in fact be emphasised inter alia that the planning of our detailed logistic support was not really undertaken until a visit was made to the PACIFIC in mid-July.

Other Planning Problems.

11. Other planning problems, such as shortage of staff, lack of intelligence and equipment information etc. are domestic matters outside the province of this Introduction. They existed, and they were overcome. Those pertaining, in particular, to the Air Staff and Administrative Branches, are covered respectively in Parts II and III of this Despatch.

Conclusions.

12. The planned date for the first operations by "TIGER" FORCE was 15th October, when two "TALLBOY" Squadrons would have gone into action. That this date would have been implemented is a tribute to the hard and unremitting work of my staff.

/13. It

13. It should also be recorded that the Americans treated us handsomely throughout our negotiations, and that their agreement to help us with common user items, stevedores etc. in OKINAWA greatly facilitated our final planning.

14. The one important lesson to be learned from Operation "TIGER" is that comprehensive planning of any new project should start at the earliest possible moment, accepting the fact that the plan may have to be changed many times before it is eventually put into operation - or cancelled.

15. In conclusion I must emphasise the constant change in American planning for the deployment of B.29s. At first OKINAWA was not considered suitable for Strategic Air Bases but this proved false when detailed reconnaissance was possible after the landing there on 2nd April. By mid-April therefore there was a rush to put every available constructional engineer on it, but this was held up until after capture of the Island on 21st June. This delay in capture had most serious effects on the planning of the American deployment; and in turn it affected the planning of the deployment of "TIGER" FORCE. Had the capture of OKINAWA been made in April as planned the story of the deployment of "TIGER" FORCE might have been somewhat different.

16. The story of the deployment would have been different in the sense that American plans would have been firm and not so disordered and as a result we would have benefited by it. But I do not consider we could have improved on the 15th October for dropping our first bomb on JAPAN.

17. In the event, "SHIELD" (the first convoy with constructional troops on board) was due at OKINAWA on 24th August, followed by "VACUUM"(our second convoy) one month later and on 15th October two Squadrons would have been operational. Bearing in mind that "TIGER" FORCE was a Phase II project I consider this to be no modest achievement.

PART 1.

CHAPTER 1.

BIRTH OF THE PROJECT.

QUEBEC Conference.

18. In the Winter of 1944, when this Despatch begins, attention was focussed on Phase I, the European War. The Japanese War was a Phase II project; at that time remote, on the other side of the world. It had always been apparent, however, that after the successful conclusion of Phase 1, we should have to take an increasing part in the Japanese War.

19. The question of greater air participation in Phase II was first examined on a Staff level at the closure of 1943; it was then reviewed at the QUEBEC Conference in September 1944, when the Prime Minister, the Rt. Honourable Winston Churchill, on inquiring whether an undertaking could be given for the British Air Force to participate in direct air operations against JAPAN said that, for the future good relations of the two Countries on which so much depended, it was of vital importance that the British should participate in the direct air attack on JAPAN. The UNITED STATES had given the most handsome assistance to the BRITISH EMPIRE in the fight against GERMANY. It could only be expected that the BRITISH EMPIRE in return should give the UNITED STATES all assistance in their power towards the defeat of JAPAN.

The British Offer.

20. On the day following the above conversation the British Chiefs of Staff offered the U.S. Chiefs of Staff a Bomber Force of 40 Squadrons of Lancasters, half being flight refuelling tankers.

Mr. Churchill on the bombing of JAPAN.

21. In his statement to the House on 28th September, 1944, on the QUEBEC Conference Mr. Churchill stated :-

> "One must certainly contemplate that a phase in the war against JAPAN will be the severe, intense, prolonged and ever increasing air bombardment to which the Japanese mainland installations and munition centres will be subjected. In this also we shall bear our part to the utmost limit which the bases will allow".

U.S. acceptance of Offer.

22. On 27th October, the UNITED STATES Chiefs of Staff accepted the offer referred to in para. 20 above in the following terms:-

> "The UNITED STATES Chiefs of Staff welcome the offer of the British Chiefs of Staff contained in C.C.S. 691 to participate in the bombing of JAPAN, utilising Lancaster aircraft. The deployment of Lancasters either as Heavy Bombers or flight refuelling bombers against targets in JAPAN proper must of course be governed by the availability of air bases within effective radius of JAPAN.

/Determination of

Determination of the specific areas, number and dates of availability of bases for the use of Lancasters must await development of the situation in the PACIFIC and the formation of plans".

Operation "MOULD".

23. On the 23rd November, 1944 an outline Administrative Plan for British participation in the bombing of JAPAN was produced by the Director of Admin. Plans in the Air Ministry under the depressing title of Operation "MOULD". It was provisional only and was based on the Americans providing all requirements normally met by the Army in the field. In view of the many changes and vicissitudes through which the project passed it would serve no useful purpose to give details of the plan, but briefly, it was intended to divide the Force into three Groups each of twelve Heavy Bomber and six Long Range Fighter Squadrons.

24. The three Groups were :-

(a) A UNITED KINGDOM Group manned mainly by the Royal Air Force with the exception of two Heavy Bomber Squadrons and one Long Range Fighter Squadron which would be Canadian manned.

(b) A Group manned entirely by the R.C.A.F.

(c) A Group manned by the Royal Air Force operating in A.C.S.E.A. until required in the PACIFIC.

25. This planning is important in that it indicated that the Force would be COMMONWEALTH in concept.

Time of Deployment.

26. The plan included a statement that :-

"no interference with current operations is permissible so that little in the way of advance preparation can be undertaken. It may be necessary to redeploy at least one Group rapidly in order to take full advantage of any bases that may be made available to the R.A.F. by the Americans. At the end of the GERMAN War, therefore, first priority will be given to the preparation of U.K. Group. The Squadrons of the A.C.S.E.A. Group may be moved to INDIA very soon after Germany's defeat, but they will not be organised as an independent V.L.R. Group at that time".

27. This was depressing reading to anyone anxious to proceed with the planning, but it was indicative of the Policy on the Japanese War, for the end of the GERMAN War was not yet in sight and Von Rundstedt's last but temporarily disturbing offensive was yet to come.

Force Commander Designate.

28. These events were prior to my appointment as Force Commander Designate. I had relinquished command of the MEDITERRANEAN Coastal Air Force in November, 1944, which I had held since its formation in February, 1943, and on return to the UNITED KINGDOM was informed of my appointment.

V.L.R. Planning in Bomber Command.

29. The V.L.R. project for the war against JAPAN had been put to Bomber Command early in 1944, and some progress had also been made there in studying the problem when I arrived in November. Several officers who had studied the various problems, although not yet on my establishment (for I had none until 16th January,1945) co-operated with me most loyally.

30. At the request of the Chief of the Air Staff I was attached to Bomber Command where by the courtesy of the Commander in Chief I was enabled to study all aspects of Bomber Command at work and to bring my knowledge up to date. It is fitting that acknowledgment should be given here to the Commander in Chief, Bomber Command and his Staff, for, from the first day of my arrival under his flag until the following April, when my Staff had outgrown its hospitable housing beneath their roof, they extended to us all the help which we required with thoroughness, efficiency and above all willingness which made it a pleasure to be working with them.

31. In December I attended a Technical Radio Course at MALVERN but it was not until after 1st January that I was able to visit Groups in Bomber Command, owing to the fact that my appointment and its intention was considered to be of the highest secrecy.

32. In between visits to Groups I spent the mornings in Bomber Command Headquarters, and many of the afternoons in the Air Ministry in discussing the many and varied problems connected with the Project.

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33. Thus at the end of 1944 we were committed to the direct air attack on JAPAN, but the governing clause in the Prime Minister's statement (see para. 21) and in the UNITED STATES Chiefs of Staff acceptance of our offer (see para. 22) referred to our participation being subject to the availability of bases.

34. The omission at that stage of any reference to the need for constructional troops and other services for the making of airfields or for providing the necessary services to support the Force should be noted. It would appear that reliance was being placed on the Americans providing these requirements in return for the similar facilities we had afforded them in the UNITED KINGDOM. Thus the problems of logistic support (an American term for complete support services) and of bases deserve particular note because they became the two major problems on which all planning and the time required to implement it, hinged.

35. There were in addition at this stage considerable technical problems which required constant and immediate attention. The distance to JAPAN from the only available air bases in the MARIANAS and Northern LUZON for example was immense and we had no aircraft which would fly the distance with a load of bombs. Investigations and trials in flight refuelling had, therefore, been in hand long before I came on the scene. There were other technical problems with the Lincoln which considerably hampered production.

/36. Investigations

36. Investigations were also initiated to increase the all-up weight of the Lincoln and the Lancaster to avoid flight refuelling which in addition to various technical considerations meant the fitting of the Lancaster with the Lincoln undercarriage. Other problems were tropicalised power plants; the need for air condition "blowers" for men working in the tropics inside camouflaged fuselages and, though "blowers" were still a necessity, some improvement was effected in lowering temperatures by deciding to do without camouflage. "Stoppers" were also designed for all holes such as engine intakes, exhaust etc. to prevent fouling by dust, flies etc. Special covers were also designed with an air cushion between the cover and the perspex to avoid damage to perspex by the intense tropical sun.

37. Very troublesome problems also arose due to humidity in the PACIFIC and the solution was to air condition all radio, H.2 S. navigational aids, etc. but this was clearly impracticable within the time allowed. Immediate decisions had to be taken between the ideal and what was practical in the time.

38. I inherited a few of these problems when I was appointed Force Commander Designate in November 1944. All of these problems required constant attention on the part of my overworked staff, and much energy and drive to accomplish results in the limited time available.

CHAPTER 2.

PERIOD JANUARY TO MARCH, 1945.

First Meeting Redeployment Sub-Committee.

39. On 24th January, 1945, the first meeting of the Re-Deployment Sub-Committee appointed to deal with policy questions of the V.L.R. Force was held in the Air Council Room. This was the first meeting after my appointment as Force Commander Designate.

40. The Assistant Chief of Air Staff (Policy) stated that although the Americans had agreed to our participation in the bombing of JAPAN we had not yet been given the opportunity to discuss plans with them. It was the intention of the C.A.S. to clear this point at the forthcoming (YALTA) Conference. When this had been done the Force Commander would be sent to WASHINGTON to discuss the plan and agree upon our respective responsibilities.

41. With regard to the logistic support it was stated that we might expect the Americans to provide all the bases and to construct them, but as the construction and maintenance of airfields would be a huge commitment it would be advisable to make arrangements to provide airfield construction personnel. It was therefore noted that arrangements were in hand to provide three Royal Air Force Airfield Construction Wings, and Air Vice Marshal Anderson (R.C.A.F.) was asked if 10,000 Canadian engineers could be made available for the construction of Canadian airfields. It was agreed, however, that no firm decision could be made until an agreement was made with the Americans and further information was available on the conditions under which the Force would be operating.

42. In the discussion on the training and formation of the Canadian Group it was pointed out that there were many practical objections to not forming the Group in the UNITED KINGDOM, but on the other hand there were strong reasons for forming it in CANADA, particularly as Canadian policy required the return of all Canadians at the end of the German War. The meeting decided to recommend the formation of the Group in CANADA and asked for a detailed examination of the proposal. At a later date this recommendation was adopted.

YALTA Conference.

43. Meanwhile the Chief of the Air Staff was away from the UNITED KINGDOM for the YALTA Conference and on 1st February, 1945, he wrote to Major General L.S. Kuter (Assistant Chief of the Staff, Logistic Planning) representing the UNITED STATES Chiefs of Staff at the YALTA Conference, and said he was anxious to start detailed planning for the V.L.R. Force. He added he would like to send the Force Commander Designate to the UNITED STATES at an early date with a small number of Staff Officers to make as much progress as possible and to visit the PACIFIC area and learn at first hand something about the operating conditions in that Theatre.

44. On 2nd February General Kuter replied and whilst agreeing that the proposals of the Chief of the Air Staff should be discussed at MAGNETO said the Americans were stretched to the limit in constructing air bases. He urged that the British plans should envisage the full development of an air base area to support the

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operation of the V.L.R. Force to include all development from "tide-water to aircraft".

45. On 7th February General Kuter called on the Chief of the Air Staff and confirmed his previous statement. The great need of the Americans was constructional personnel for airfields, roads, etc. and they had insufficient for their own needs. Moreover, the Americans had no set plan for the future deployment of B.29s as they became available and insufficient bases from which to operate them. (The landing on LUZON was but a month old and the strategy of cutting the Japanese sea communications was only just getting under way).

46. The points of the discussion were confirmed by the Chief of the Air Staff in a letter to General Kuter dated 8th February, in which he said the Force Commander Designate with a staff of five officers would go to WASHINGTON in the near future to study the American plans, and the Force Commander Designate would visit the PACIFIC Theatre after the end of March. He added that he quite understood General Arnold's desire that the V.L.R. Force should be self supporting to the maximum possible extent and we would do our best to meet it. He was sure, however, that General Arnold would receive sympathetically any request for assistance which the development of the plan might show necessary and reasonable.

"Tide-water to Aircraft".

47. The sentence in General Kuter's letter which said "I am compelled to urge that your plans envisage the full development of an air base area to support the operations of your Squadrons to include all development from tide-water to aircraft to ensure the full employment of your Force", was a clear indication how the Americans were thinking. It showed only too well that we were now confronted with our second major problem; that of logistic support.

48. In was therefore evident that the project would be a big undertaking, bigger in fact than any previously undertaken by the Royal Air Force. It meant the mounting of the V.L.R. Force on to a base over 14,000 sea miles from this Country entirely self supporting from the ships in which it travelled to the aircraft in which it flew. The Force had to be capable of providing all its own resources including the requirements of port operating, port construction, building of roads, airfields and communications, laying petrol farms and pipe-lines, provision of material such as hard core, erection of hutting etc. and the unloading of shipping at an unknown port. In addition a suitable backing had to be organised such as had been provided to Bomber Command by Maintenance Command, Civil Repair Organisations, Aircraft and Accessory Manufacturers, etc.

Meeting with V.C.A.S.

49. Following up the progress made at YALTA the V.C.A.S. held a meeting at WHITEHALL on 24th February, prior to the departure of the Force Commander Designate to WASHINGTON. It was then recommended that since the construction of airfields would be our responsibility the following action should be taken :-

(a) 2,500 British airfield engineers to be held available at two or three weeks notice to move as required to any place nominated by the Americans.

(b) Two other Wings of BRITISH COMMONWEALTH engineers now in FRANCE to be withdrawn if felt to be really necessary as a result of discussions in WASHINGTON.

/(c) Force Commander..

(c) Force Commander Designate to visit OTTAWA to obtain a firm offer of 5 or 6,000 Canadian engineers.

50. On the basis that the German War ended on the 1st April it was assumed that 1st October would be the deployment date for the first eight Heavy Bomber Squadrons plus one Mosquito Squadron.

51. Further decisions were that "TIGER" FORCE would be equipped with Lincolns, but Lancasters if the production of Lincolns was not in time - range requirements to be 3,000 miles plus fourteen per cent for both types of aircraft and that the necessary tankage should be "tailored" into the fuselage.

"TIGER" FORCE.

52. On 24th February operation "MOULD" was renamed "TIGER" FORCE.

First Visit to WASHINGTON.

53. I arrived in WASHINGTON on 1st March. The main objects of my visit were to discuss with the Staff of the U.S.A.A.F. the base for "TIGER" FORCE, and to determine as far as was possible the extent of our commitment in relation to General Kuter's statement that we should be responsible for ourselves "from tide-water to aircraft".

Base for "TIGER" FORCE.

54. The Staff of the U.S.A.A.F. were in general helpful and co-operative. They emphasised that they had more B.29s than they could deploy in the PACIFIC because the only areas available for air bases were on the islands of GUAM, SAIPAN and TINIAN in the MARIANAS. The only other area which would be available in the near future was Northern LUZON; but this was still in Japanese hands and would not be cleared for another four months. FORMOSA could not be considered as it was intended to by-pass it. Plans were in hand to capture certain islands in the RYUKYUS but the information available about them was so unreliable that no reliance could be placed on making V.L.R. Bases on them.

55. Efforts were made to work out a plan for the joint use of airfields in the MARIANAS on the basis of American attacks by day and British by night. These discussions, however, were fruitless because the Americans were already operating over JAPAN at night from them, and Squadrons of B.29s in the UNITED STATES were awaiting the further development of MARIANA airfields. It was clear, therefore, that the MARIANAS would be stocked to full capacity long before "TIGER" FORCE could deploy after Phase I.

56. As it was not intended to capture FORMOSA, and since the RYUKYUS was an unknown factor, the Americans themselves were contemplating bases in Northern LUZON (it is no further from the Japanese mainland than the MARIANAS), but a shortage of engineers for airfield construction had prevented them from proceeding with the project.

Choice of Northern LUZON.

57. Every project whereby we could join the Americans in the construction phase had to be abandoned because of the extremely limited choice of bases available within range of JAPAN. The next, and only step, was to consider whether we could support ourselves in every respect and if we could Northern LUZON was the only available area.

/58. In the....

58. In the report to the C.A.S. on the visit I stated that the problem of making bases in the area would require expert examination, and that the difficulties might prove too great. The report states:-

> "if the port problem can be solved the problems ashore would also be great and the bill will be heavy. Our "seat in the stalls" will be expensive. We will want a port detachment, lighters, dredgers, perhaps landing quays and certainly a pipe line out to sea for petrol and oil. Roads are bad, poor bridges, no telegraph but an unlimited supply of wood, hard core etc. near at hand. A careful examination will be necessary before we decide :-
>
> (a) Whether we can afford to go in on our own at all.
>
> (b) Whether - if we go in - which is the best area, APARRI, North-west corner of LUZON or the West corner of LUZON.

Visit to OTTAWA.

59. On 5th March I went to OTTAWA and discussed our problems with Mr. Gibson, Acting Secretary of Air, General McNaughton, Secretary of War, and Air Marshals Leckie and Breadner. The C.A.S. realised that if the German War finished in April we might have Squadrons ready for deployment before airfields were ready in the PACIFIC to accept them. He said that the Royal Canadian Air Force ceiling for the PACIFIC was 23,000 which included airfield engineers. This meant that the engineers required could only be supplied in lieu of Canadian Bomber Squadrons.

60. The Canadian C.A.S. and the Secretary of War were both willing to assist, but they would need help to obtain a firm decision from their Cabinet on the provision of engineers, a firm date for their sailing, and an agreement to the engineer quota counting against the R.C.A.F. ceiling.

Return to ENGLAND.

61. On my return to ENGLAND on 9th March the recommendations to the C.A.S. were :-

> (a) That we ask U.S. Chiefs of Staff for the allocation of an area to us in Northern LUZON as a base provided examination shows it as acceptable.
>
> (b) We ask U.S.A.A.F. to acknowledge our right to Staging in the event of American landings on the CHINA Coast.
>
> (c) We ask the Canadian Government for 10,000 engineers and also the Australian Government for a contribution.

62. To summarise, the Americans were helpful and encouraging. They welcomed our assistance, but could not offer us any room in the MARIANAS as it was already behind schedule for Squadrons waiting to be deployed, and would be full to capacity by the time we arrived there after Phase I. The only alternative was Northern LUZON.

63. As regards logistic support the Americans were quite willing to help us with common user items, but owing to their own shortage of constructional personnel, shipping and resources in relation to the very large Air Force which they had planned to

/operate against.....

operate against JAPAN, they would be unable to accept us unless we could pay our own way for our own initiation and support. Thus General Kuter's statement was explained.

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64. In March therefore we knew where we stood. We knew that the provision of a base was not an acute problem; the real problem was that of logistic support, i.e. "development from tide-water to aircraft to ensure a full deployment of your Force".

65. The problem was aptly summed up by Mr. Churchill in a simile "If we wish to participate in the Japanese War we must pay for our seat in the stalls". But we had, as yet, made no calculations how much the seat would cost or considered how the cost would be met. The Canadian engineers with the proposed three Airfield Construction Wings were the whole of our logistic contribution.

66. A plan was essential at this stage when, in the light of General Kuter's phrase about the provision of all the support from "tide-water to aircraft", we were obviously faced with an immense problem.

CHAPTER 3.

PERIOD MARCH AND APRIL, 1945.

Chiefs of Staff Meeting 19th March.

67. On 19th March, 1945, the Chiefs of Staff considered a note by the Chief of the Air Staff covering a draft minute to the Prime Minister requesting that an approach be authorised to the UNITED STATES Chiefs of Staff for the allocation of the CAGAYAN VALLEY in LUZON as a base for the British V.L.R. Bombers. The Committee approved the terms of the draft minute and instructed it be sent to the Prime Minister over their signature.

68. The Committee then invited the Principal Administrative Officers Committee to examine :-

(a) The requirements for Naval and V.L.R. airfields in the PHILIPPINES in the light of the engineer resources and personnel available.

(b) To allot the resources and manpower available.

(c) To submit recommendations in order of priority.

Chiefs of Staff Meeting 9th April.

69. Meanwhile action had been taken with the Canadian Prime Minister by the British Prime Minister requesting the allocation of a number of Canadian engineers to help in the construction of air bases. This request, made on the 20th March, was answered by the Canadian Prime Minister on 28th March and was considered by the Chiefs of Staff at their meeting on the 9th April. The Canadian Prime Minister said that although it was desirable the British and Canadian Bomber Force, which is to share in the main operations against JAPAN, should be independent of the UNITED STATES for the construction of airfields and the provision of other facilities, he was concerned as to considerations of both time and space, but as he had not yet seen the latest proposals he asked for further information.

70. A draft reply to this signal was prepared by the C.A.S. for the Chiefs of Staff for the approval of the Prime Minister but in regard to this draft the C.I.G.S. stated that as considerable Army resources were involved he could not approve it until he had seen the Principal Administrative Officers report on the project. The draft reply of the C.A.S. with this comment by the C.I.G.S. was sent to the Prime Minister, and he would decide whether or not to send it to Mr. Mackenzie King. At their meeting on 19th April (referred to later) the Chiefs of Staff were informed that the Prime Minister did not intend to reply to Mr. Mackenzie King until it had been established that the Force could, in fact, be operational in time to be of practical use. The reply was despatched on 16th June, 1945 (see para 134).

/Report by P.A.O's.

Report by P.A.O's.

71. The report prepared by the Principal Administrative Officers Committee on the instructions of the Chiefs of Staff is dated 16th April and is contained at Appendix "A". The Committee considered the CAGAYAN VALLEY the best area in Northern LUZON for the V.L.R. Base for a Force of twenty Heavy Bomber Squadrons, one Pathfinder Mosquito Squadron, one PRU/Met Squadron and one A.S.R. Squadron all of twenty aircraft each. (American acceptance for air defence responsibility cancelled the need for Fighter Squadrons. Eight of the Heavy Bomber Squadrons would be Canadian and twelve Royal Air Force. The question of employing Heavy Bomber Squadrons from A.C.S.E.A. in "TIGER" FORCE was left in abeyance pending developments).

72. The port of APARRI was considered the best in the area for the CAGAYAN VALLEY as MANILA was 400 miles away to the South with poor roads, and MANILA would be required by the Americans for mounting their task forces and for the development of LUZON as a base. The port of APARRI, however, was not without its difficulties.

73. The Committee estimated the Force required for the construction and development of the base area would be 106,000 men which would be capable of reduction to 69,000 when the Squadrons had been deployed. The Royal Air Force contribution would be 71,500 made up of 50,000 Squadron and maintenance personnel and 21,500 construction and administrative personnel; the Army contribution however would be a permanent maintenance commitment of 14,300 with an additional commitment of 20,000 during the construction period.

74. With regard to the Army personnel the Committee stated that the Army had made no provision for "TIGER" FORCE. It was also assumed that no Army personnel could be withdrawn from EUROPE before the end of the German War and none from S.E.A.C. before the fall of RANGOON; as a result only a negligible proportion of the personnel were available for the work and these would not be a balanced Force. Even if personnel could be withdrawn from EUROPE after 1st June allowance must be made for two months sorting and leave, two months for the voyage and fourteen days acclimatisation, thus being ready by mid-October.

75. As regards the Royal Air Force constructional personnel only 7,000 were eligible for the Far East and if all were used for "TIGER" FORCE none would remain for other oversea commitments. Even if allowance were made for 10,000 Canadian engineers there would be a big deficiency to be made up.

76. The Committee concluded by stating that 1st February, 1946 would be the earliest date for the first airfield, and that in view of present commitments and demobilisation arrangements now approved by the Cabinet, the project was of such a magnitude that if planned commitments in North west EUROPE, S.E.A.C. and the PACIFIC were to be met the project was considered impracticable.

Chiefs of Staff Meeting 19th April.

77. The Chiefs of Staff met on the 19th April to consider the report of the P.A.O's referred to above.

78. The C.N.S. stated, that with due regard to the various factors raised in the P.A.O's report, if it was necessary to send the V.L.R. Force to operate against JAPAN, it could be done.

/79. The C.A.S.

79. The C.A.S. agreed and said that we were already committed by statements made at QUEBEC, and subsequent public statements by the Prime Minister, to provide Air Forces for the War against JAPAN. The matter would have to be referred to the Prime Minister for decision but before this was done it would be necessary to know the cost we should have to pay in relation to other operations.

80. The Deputy C.I.G.S. stated that the C.I.G.S. did not consider that we were committed to sending the V.L.R. Force to the PACIFIC. In his view the real test was whether the results likely to be achieved by this Force were sufficiently worth while to justify the consequent interference with other operations. It appeared that the Force could only operate at extreme range against the Southern Island of JAPAN and that it would not be ready for operations until after the date by which the UNITED STATES planned to capture this area. There was, therefore, a great risk that even if the Force was sent to the PACIFIC it would not have any appreciative effect on the War against JAPAN. However, if it could be shown that the results likely to be achieved were worth while from the military point of view then the project should go ahead.

81. He reminded the Committee that the P.A.O's were already examining the overall position regarding Engineer resources. It was possible that this would show that the requirements of South-east ASIA, of the British Pacific Fleet, and of the V.L.R. Force could be met, although it was doubtful. He asked if it would be possible to use UNITED STATES airfields such as those to be established on OKINAWA.

82. The C.A.S. replied that it was hoped, once the V.L.R. Force was established in the PACIFIC, it would be possible to arrange for refuelling facilities to be made available at American airfields nearer JAPAN, which would result in a considerable increase in striking power. We were experts in night bombing and there was certainly a place for this type of bombing against JAPAN. We could also assist considerably by extensive mine laying.

83. C.N.S. thought that it would be essential for us to take part in the main air operations against JAPAN. Regarding possible interference of the requirements in engineers of the V.L.R. Force with those of the British Pacific Fleet he pointed out that unless the necessary air strips could be provided for the Fleet Air Arm we should have to withdraw the British Pacific Fleet.

84. After further discussion the Committee instructed the Joint Planning Staff to prepare a report showing :-

(a) The history of the proposal and the extent to which we were committed to it.

(b) The cost to other approved operations on the basis that the project shared the highest priority with the requirements of the British Pacific Fleet.

(c) The greatest British contribution that could be made without serious effect on other projected operations.

(d) The military value of the operations assuming that the entire project was undertaken.

/Second Visit

Second Visit to WASHINGTON.

85. General Arnold was visiting EUROPE in April and it had been arranged for him to lunch with the Chief of the Air Staff on the 11th. It was anticipated that considerable progress might have been made during this meeting in clearing up many of the outstanding problems in the deployment of "TIGER" FORCE. Unfortunately General Arnold was too ill to travel and was detained in the South of FRANCE so long that his visit to ENGLAND was not possible.

86. In view of this I made my second visit to WASHINGTON arriving there on 13th April. The object of the visit was to put in a personal appearance and thus remind the Americans of our resolve to deploy in the PACIFIC. It was apparent on my first visit that American plans for future deployment of B.29 Squadrons were by no means firm, that progress in planning was subject to continual change, and it might be possible to take advantage of an opening to deploy "TIGER" FORCE in an area nearer to JAPAN than LUZON. There was also the question of the action taken by WASHINGTON on our bid for the CAGAYAN VALLEY (para 67 refers).

CAGAYAN VALLEY.

87. Little progress had been made in the interchange of signals between the American Chiefs of Staff and General of the Army MacArthur regarding our bid for the CAGAYAN VALLEY. General MacArthur's view was that the development of the CAGAYAN VALLEY would present too many difficulties. On 9th April however he was informed by the American Chiefs of Staff that British participation in the war against JAPAN had been accepted, and that if he still considered the CAGAYAN VALLEY unsuitable he was to nominate some other area for the purpose, but not more distant from JAPAN.

OKINAWA.

88. American Forces had landed on OKINAWA on 2nd April and the general opinion in WASHINGTON was that it would be captured during the month. Little was known of the possibilities within the Island for Heavy Bomber bases but it was thought the total capacity would be barely sufficient to meet the needs of the Tactical, Naval and Marine Air Forces when the needs for air cover for assault forces in the invasion of JAPAN and the control of sea communications had been considered. This view was confirmed by Fleet Admiral Nimitz at a later date.

MIYAKO.

89. On the assumption of the early capture of OKINAWA the Americans had decided to capture another Island to the south named MIYAKO; the assault was to take place in June. MIYAKO was considered preferable to OKINAWA as a base for V.L.R. aircraft as it had a good port with reasonable facilities.

90. MIYAKO had considerable advantages over Northern LUZON in range as will appear from the following table.

	From LUZON N.M.	From MIYAKO. N.M.
NAGASAKI.	1010	543
OSAKA.	1255	920
NAGOYA.	1330	868
TOKYO.	1695	1160.

/91. These shorter

91. These shorter distances would have enabled "TIGER" FORCE to have covered the whole of JAPAN with a greatly increased bomb load; moreover the development of the Island even for our own use would have been much cheaper in manpower than Northern LUZON . There would also have been a great saving in shipping as the port was much better, the climate was more temperate, the construction of airfields would have been an easier problem and there was also the possibility of establishing air bases on the Island for the Pacific Fleet, a requirement which had yet to be met from our slender manpower resources (see para 83). It was certain also that sooner or later the Americans would have constructional troops available and would wish to press on with the development of the Island and thus be able to share with us many of the various overheads.

92. At this time the Americans had a great shortage of constructional troops and were in no position to develop airfields on OKINAWA, in Central LUZON and the MARIANAS in addition to MIYAKO. Our problem was to exploit this shortage in relation to MIYAKO. Except for 2,500 Royal Air Force airfield engineers (see para 49(a)) we had nothing with which to bid and it was apparent that a bid made by us would only be entertained provided it was big enough and could arrive and begin airfield development fairly soon after capture of the Island.

93. I returned to ENGLAND on 20th April leaving the way clear in WASHINGTON that they would entertain our bid for MIYAKO provided we could provide sufficient constructional troops.

Recommendations.

94. On my return I recommended that we should make an immediate bid for MIYAKO, and had prepared a Signal with the Staff of the U.S.A.A.F. before my departure which had their approval. The Signal was intended for the approval of the British Chiefs of Staff and to be despatched by them to the Americans.

95. A further recommendation was that the 2,500 Airfield engineers available should be sailed within three weeks regardless of progress of the negotiations, 8,000 constructional troops should be sailed by 14th July, and a further 10,000 by middle of August at latest. Emphasis was placed on the need for speed combined with a firm offer of constructional troops as this was the essence of the proposal.

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96. Thus, at the end of April, the negotiations for a base had moved, as indeed was intended, from the CAGAYAN VALLEY in LUZON to MIYAKO; the solution to the problem of a suitable base did not appear to be difficult provided we kept a foot in the door.

97. The real problem, however, was still that of logistic support; to pay "for our seat in the stalls". The Principal Administrative Officers Report had shown the nature of this problem involving as it did the unloading of ships, operating the port, and various other constructional tasks ashore.

/It was the

It was the same problem as that referred to by General Kuter in his letter of 2nd February when he referred to "tide-water to aircraft" (see para 44) and on 16th April we knew the cost.

98. By the end of April therefore not much progress can be recorded in solving the problem of logistic support. The P.A.O's had stated no provision had been made by the Army for "TIGER" FORCE, and now that the problem had been raised the planned commitments in North west EUROPE, S.E.A.C. and the PACIFIC were such that if they were to be met the "TIGER" FORCE project was impracticable. There were insufficient troops for both projects.

99. Within the Royal Air Force we could not meet the bill; investigations showed that the total of constructional personnel available for service in the FAR EAST was 7,000 (which would leave none for other overseas commitments) and of these only 2,500 were immediately available. All the above were Airfield constructional personnel, but we required all manner of other trades from the Army such as stevedores, personnel for port operating, etc. to support ourselves from "tide-water to aircraft".

100. Moreover no progress had been made in negotiations for Canadian engineers.

101. At this stage the future of "TIGER" FORCE did not look very promising.

CHAPTER 4.

PERIOD MAY TO JUNE, 1945.

Report by Joint Planning Staff.

102. On 30th April the report called for by the Chiefs of Staff from the Joint Planning Staff in relation to Northern LUZON (see para 84) was delivered and stated in conclusion:-

> "It seems to us, therefore, that we are faced with the straight choice between the V.L.R. Bomber project and the continuance of active operations in S.E.A.C. in 1945".

103. By this time, however, attention was being focussed on MIYAKO as a base for "TIGER" FORCE. MIYAKO was preferable to the CAGAYAN VALLEY in every way particularly as it would have been far less expensive in man power. Thus the door, on this side of the ATLANTIC, was kept open for further investigation.

Chiefs of Staff Meeting 1st May, 1945.

104. The above report by the Joint Planning Staff was considered by the Chiefs of Staff on 1st May with a paper by the Principal Administrative Officers based on examination of MIYAKO as a base for "TIGER" FORCE. (The latter is shown at Appendix "B").

105. The Chief of the Air Staff said he thought our best course of obtaining American acceptance of our proposal was to send the 2,500 Royal Air Force airfield engineers to the PACIFIC (at a meeting on 14th May the Air Ministry Departments were invited to make the necessary arrangements). Even if the V.L.R. project was dropped these engineers could be profitably employed by doing something to meet our commitments to assist in air operations against JAPAN.

106. It was suggested that a signal be sent to the Joint Staff Mission in WASHINGTON requesting UNITED STATES Chiefs of Staff be informed that 2,500 engineers were available immediately, and of our intention to withdraw a further 5,000 engineers from EUROPE as early as possible for opening up the port and for airfield construction. In view of this could the intention to capture MIYAKO be confirmed and the Island allotted to us as a base instead of the CAGAYAN VALLEY?

107. The C.I.G.S. then stated that he could not agree to Army engineer personnel being withdrawn from EUROPE until it had been established that the shipping to move them into the PACIFIC could be provided.

Shipping as the Key.

108. Thus, when faced with a specific task, we were made aware of another urgent and vital problem - that of shortage of shipping. The two problems of bases and logistics - sufficiently serious in themselves - were now joined by this third problem which, alone, might wreck the whole project.

/Cancellation of

Cancellation of attack on MIYAKO.

109. On 5th May a signal was received from the Royal Air Force Delegation, WASHINGTON, stating that a request had been made to the UNITED STATES Chiefs of Staff by Admiral Nimitz asking approval for the cancellation of the assault on MIYAKO and that this request had been approved.

110. It is therefore unnecessary to give further consideration to the proposal of MIYAKO except to note that such planning as had been done was of the utmost value for the next base.

Field Marshal Wilson to C.A.S.

111. A few days later a personal signal was sent by Field Marshal Wilson from WASHINGTON to the Chief of the Air Staff stating that General Marshall had informed him that he thought it might be possible to accommodate "TIGER" FORCE on OKINAWA where the prospects of developing airfields were better than had been anticipated. The final view, however, rested with General Arnold.

End of German War.

112. On 7th May the German War came to an end. This event in relation to "TIGER" FORCE meant, in addition to other matters, the end of the convoy system and a release of captured and frozen shipping which might ameliorate the shipping shortage. The end of Phase I, however, did not mean that we could switch over to Phase II like turning over a pancake.

Staff - "TIGER" FORCE.

113. My staff at this time was quite insufficient to deal with the amount of work entailed in planning; up to the end of March the total strength of officers was ten only.

114. Eventually a meeting was held with Air Ministry Establishment Staff on 30th March when it was agreed that the establishment should be increased to a total of 129 officers. This total, however, was reduced to 74 by an establishment dated 1st April and only after further representations was it increased to 99 officers by an establishment dated 28th April. I was given to understand during these negotiations that "TIGER" FORCE was a Phase II project and that until after the end of Phase I the total number of officers would not exceed 100.

115. The greatest difficulties were encountered in building up an administrative staff of experience, on which the whole project would depend, as such officers were absorbed into Phase I activities. I made strong representations for an A.O.A. in February but for various reasons he did not join my staff until 3rd May. On 28th April an A.O.A. and S.A.S.O. was added to my establishment.

116. I pay tribute to my staff for the amount and excellence of the work carried out by them during the days when we were woefully shorthanded.

117. On the 25th April the Headquarters, which had outgrown its accommodation at Bomber Command, had moved to Bushy Park.

/Third Visit to

Third Visit to WASHINGTON.

118. As nothing further had been heard of OKINAWA as a base for "TIGER" FORCE (see para 111) from the UNITED STATES Chiefs of Staff I went to WASHINGTON and arrived there on 22nd May. The object of this visit was not to bring pressure to bear on the negotiations, but to explain to the U.S.A.A.F. Staff the state of planning, and to ascertain what problems were likely to present themselves in logistic support should the American Chiefs of Staff decide to make an offer of OKINAWA.

Position at OKINAWA.

119. The capture of OKINAWA had taken far longer than had been anticipated. At the end of May the Americans thought they could plan on capture by the end of June but until that time nothing could be allowed over the beaches except materials for the land battle. This delay in capture had imposed a serious hold-up in shipping; for example airfield and other constructional troops for the development of the Island as an air base had been held up for several weeks. In fact the back log of shipping and future sailings which had been planned for OKINAWA showed that all the beaches would be used to capacity up to 1st November without any allowance for bad weather. Our bids for allocations within this period had not been made, and the American Staff in WASHINGTON emphasised that should any of our shipping arrive before 1st November, the clearing would have to be made in the PACIFIC Theatre, and though problematical it might be done.

American Distrust.

120. The Americans wished us to deploy on OKINAWA as early as possible but the stumbling block was the payment "for our seat in the stalls". Our only firm offer was 2,500 engineers, which were without any means of unloading their equipment at the destination and without lighterage. The Americans had prepared a paper on the allocation of MIYAKO to us and it showed that we would require a Force of about 15,000 constructional troops for the development of the Island.

121. The Americans stressed repeatedly their intention to help us in the sense that if we were short of certain classes of personnel and material they would endeavour to meet these deficiencies provided we in turn compensated with other personnel or material in plentiful supply.

122. Thus the unsolved problem of logistic support was delaying progress in our negotiations with the Americans. They were anxious to include "TIGER" FORCE in OKINAWA but we were not in a position to state what logistic support we could provide. Pressure was therefore being brought to bear on this problem of paying "for our seat in the stalls" very soon after the end of the German War. In view of our other planned commitments and other factors such as the time taken to withdraw the personnel from EUROPE, and the time taken to prepare them for the PACIFIC and the time for the voyage we were not in a position to provide our payment at so early a date.

Interview with General Eaker.

123. I discussed the role of "TIGER" FORCE with Lieutenant General Eaker and though he was courteous and helpful he was embarrassed in his wish to help by our inability to give firm figures for our logistic support. He left me in no doubt that he had to

/restrict our

restrict our deployment to two Squadrons in December and two in February, 1946, until more information was available on our contribution.

Plan for Strategic Air Forces in the PACIFIC.

124. The American plan for deployment at this time was two Air Forces in the PACIFIC under a Strategic Air Headquarters at GUAM. The 8th Air Force would be on OKINAWA and the 20th in the MARIANAS. "TIGER" FORCE would operate directly under Strategic Headquarters and form the third Strategic Air Force.

125. The 8th Air Force on OKINAWA was then planned at a deployment of twenty Groups each of 34 aircraft plus 50% reserve making a total of 1020 aircraft. Twenty two airfields were planned for the Island and when fully developed the total holdings of all types of operational aircraft would be 2552, excluding "TIGER" FORCE for which no allocation of airfields had, as yet, been contemplated.

Advantage of Lancasters.

126. The problem in OKINAWA was to drop the greatest tonnage of bombs on JAPAN in return for any given effort by the constructional engineers in making airfields, and in providing the various services necessary to support these airfields. The B.29, for example, required a specially constructed runway of 8,500 feet for take off with an all up load of 125,000 lbs; all of the 8,500 feet was required with the inadvisability of climbing above 100 feet for the first twenty miles. There were not many sites in OKINAWA to meet these requirements.

127. The B.17, the B.24 and the Lancaster, on the other hand, could operate from a runway of 6,000 feet without considerable climbing restrictions, but neither the B.17 nor the B.24 could carry the bomb load of the Lancaster for any given range, or carry, even under the most favourable conditions, a load of 18,000 lbs. of bombs from a runway of 6,000 feet.

128. The Americans did not appreciate what the Lancaster could do, neither did they appreciate it could drop a greater weight of incendiary bombs over JAPAN than even the B.29. The B.29, for example, has 40 hooks and on each can be carried a cluster of 38 bombs, each bomb weighing 6 lbs, total bombs 1520; total weight 9120 lbs. The Lancaster has eighteen hooks with the adaptor and on each can be carried a cluster of 28 bombs each bomb weighing 20 lbs, total of 504 bombs; total weight 10080 lbs. Had "TIGER" FORCE operated in the PACIFIC the Lancaster and the Lincoln would have given an excellent return for engineer effort.

Negotiations with U.S.A.A.F.

129. Negotiations with the Americans showed that if "TIGER" FORCE was to be based on OKINAWA immediate action was necessary. For example, the shipping planned for OKINAWA up to 1st November did not include any British shipping, neither had any allocation of airfields been made there to "TIGER" FORCE. Moreover, although the Chiefs of Staff had authorised the sailing of 2,500 engineers with their equipment (see para 105) the move had not been negotiated with the American Naval authorities, neither had any discussion taken place with the appropriate authorities to include these engineers within the general overall engineer plan for the development of the RYUKYUS as an Air Base. We were thus being

/forced into

forced into step with American plans which had not been foreseen by the Americans or ourselves. We had to attempt our best in deployment on OKINAWA at this juncture or go in at some future but very indefinite date.

130. The immediate task, therefore, was to take back to England an "offer" of OKINAWA by the American Chiefs of Staff as a base for "TIGER" FORCE. It will be realised that this was a difficult matter particularly in view of our shortage of engineers and the factors mentioned in the above paragraph. On the other hand, the U.S. Chiefs of Staff had not yet replied to the British request for Air Bases in the CAGAYAN VALLEY, and although an official offer of MIYAKO had not been made by them they were aware of those negotiations and it was incumbent upon them therefore to make some offer regardless of other considerations. In the end American goodwill prevailed. The draft offer was approved by the American Chiefs of Staff, and I left for ENGLAND on the following day, 31st May.

Offer of OKINAWA.

131. The offer of OKINAWA by the U.S. Chiefs of Staff was as follows :-

> "The UNITED STATES Chiefs of Staff agree that development of the CAGAYAN VALLEY in LUZON as a base for Very Long Range (V.L.R.) Bombers is not practical particularly in view of presently planned advancement of operations in the PACIFIC. In view of the additional airfield sites on OKINAWA revealed by ground reconnaissance and in order to meet airfield requirements in time to support OLYMPIC it has been necessary to defer indefinitely the seizure of MIYAKO, diverting the resources earmarked for that operation in order to accelerate the capture and development of OKINAWA.
>
> As a result the available forward areas on which to base the units being redeployed from EUROPE and the areas for development of Very Heavy Bomber Groups remains limited. We are dependent on the RYUKYUS for the only airfields which can base aircraft suitable for direct support of the initial operation against the Japanese mainland. In order to make the most timely and profitable use of the British land based air power against JAPAN the UNITED STATES Chiefs of Staff propose a British Force of the order of ten squadrons of some 220 aircraft to be based in the RYUKYUS. Such a Force might include not only British V.L.R. types but also types having characteristics not available in UNITED STATES aircraft (such as Mosquitos). We assume that this Force will come under UNITED STATES command.
>
> Under present conditions the UNITED STATES Chiefs of Staff regret that they are unable at this date to formulate firm plans for the entire twenty squadrons but should later developments warrant, the UNITED STATES Chiefs of Staff will welcome the employment in the PACIFIC of the remaining squadrons.
>
> Upon acceptance in principle of this proposal immediate steps can be taken to prepare and implement plans for the logistic support of this Force by the British including the time of deployment and utilisation of British constructional personnel ".

/"SHIELD".

"SHIELD".

132. "SHIELD" was the name given to the convoy carrying the 2,500 Royal Air Force engineers plus elements of "TIGER" FORCE Headquarters, Base Headquarters and other Units which were being sailed to the PACIFIC. This was our first contribution to our logistic support. We required instructions as to the destination of the convoy but since all shipping had been planned into OKINAWA up to 1st November this problem was bristling with difficulties. Before leaving WASHINGTON I was assured that we would receive the instructions within ten days of my arrival in the UNITED KINGDOM. These instructions were not received. As will be seen we had to fly to the PACIFIC at a much later date to obtain them.

Chiefs of Staff Meeting 4th June.

133. At the Chiefs of Staff meeting on 4th June the offer by the American Chiefs of Staff of OKINAWA was discussed with various aspects of the project. The Committee :

(a) Invited the Principal Administrative Officers Committee in consultation with myself to examine the problem as a matter of urgency and to suggest the size and composition of the constructional Force.

(b) Instructed that the Prime Minister be informed of developments.

(c) Approved of the following draft telegram to WASHINGTON in reply to the offer of OKINAWA.

British Chiefs of Staff Reply.

134. The following Signal was sent to WASHINGTON.

"The British Chiefs of Staff gladly accept in principle the proposal of the UNITED STATES Chiefs of Staff to base a British Force of the order of ten Squadrons of some 220 aircraft in the RYUKYUS. This Force to come under UNITED STATES command.

The British Chiefs of Staff understand that this proposal is based on the principle that the British will jointly occupy a base area with an American Force and contribute their share of the logistic and engineer requirements. They propose to despatch a planning team immediately to WASHINGTON to discuss the logistical support of this Force and the British contribution.

The British Chiefs of Staff note that the U.S. Chiefs of Staff are unable at this stage to formulate firm plans for the entire twenty squadrons but that they will welcome the remaining ten squadrons as soon as later developments warrant".

The Prime Minister.

135. The Prime Minister was informed of the American offer and progress of the negotiations with a note to the effect that the shipping commitment was being examined as a matter of urgency. His comment on the Minute was "Good. So proceed".

/On 12th June

136. On 12th June he sent the following Signal to General Marshall :-

> "I am very pleased indeed with your offer to us of a base in OKINAWA from which our first instalment of ten squadrons can take part in the air bombardment of JAPAN. This is a very handsome gesture on your part and in full accordance with all the kindness we have received from the UNITED STATES Chiefs of Staff. Our contribution will help though nothing like what we should like to give you in your tremendous effort to crush JAPAN speedily".

P.A.O's Report on OKINAWA.

137. On 9th June the Principal Administrative Officers submitted their report on OKINAWA as requested by the Chiefs of Staff. The report is at Appendix "C" and it marked a most promising turn in events.

138. The Committee calculated that the total Force would be 15,000 operational Royal Air Force personnel with an additional 7,500 for constructional purposes but added that the additional 2,500 Canadian engineers was doubtful; the Army contribution was assessed at 12,390 for construction and administration. Shipping was allocated for 1945 for these personnel.

139. The Committee recommended that the Chiefs of Staff authorise the Force Commander to base his discussions with the Americans on the assumption that the maximum constructional and administrative force at his disposal will be as detailed in Appendix "A" to their Report (16,370). They also recommended that an approach be made to the Canadian Government with a view to obtaining their agreement to provide one Canadian Airfield Construction Wing of 2,500 for embarkation at VANCOUVER on 30th September.

Chiefs of Staff Meeting 14/15th June.

140. The Chiefs of Staff met on the 14/15th June to consider the report by the Principal Administrative Officers on OKINAWA. The following decisions were made :-

(a) To implement the decision made on the 14th May by sailing "SHIELD" without waiting for the Signal of destination (see para 132 above) on the assumption that by the time the ships reached PANAMA we should have received the American advice.

(b) To despatch a Planning team with the Force Commander to WASHINGTON as soon as possible and to include War Office representatives.

(c) That the Force Commander should base his discussions with the Americans on the assumption that the maximum constructional and administrative force should be as detailed (16,370). He should if possible however obtain American agreement to accepting a smaller number of constructional personnel and avoid any commitment as to the exact number of skilled engineer personnel to be provided.

/(d) That the

(d) That the Secretary should submit to the Prime Minister a draft telegram from him to the Prime Minister of CANADA in reply to Signal of 28th March (para 70 refers).

(e) That the Joint Planning Staff be instructed to put forward recommendations as to the relative priorities to be allotted to the requirements of engineer personnel of the V.L.R. Force MONABS and post MAILFIST operations in the light of the Principal Administrative Officers report on the provision of engineer and constructional labour when this was approved.

141. Regarding (c) above the Chief of the Air Staff stated that no useful purpose would be served by the Force Commander returning to the UNITED STATES unless he was in a position to give a firm undertaking that we would provide a firm number of constructional personnel. Whether or not all these men were skilled was of lesser importance. The whole V.L.R. project to which the Government and the Chiefs of Staff attached considerable importance depended on early firm agreement being reached with the U.S. Chiefs of Staff.

"SHIELD", "FORTIFY" and "VACUUM" Convoys.

142. Meanwhile my Staff had pressed on with plans for the sailing of "SHIELD" and it was hoped to get the whole convoy away during June. It would consist of 3,000 personnel, 15,000 tons of airfield construction material and stores with some 522 vehicles plus trailers and motor cycles. No instructions had yet been received from WASHINGTON as to the destination of the convoy. Arrangements were also made to load and sail the convoys "VACUUM" and "FORTIFY".

143. Eventually all cargo ships in "SHIELD" sailed in June and its personnel ship on 7th July. Before the sailing I inspected the personnel at WEST KIRBY. Few had been overseas before and I observed that although there would be no doubt of their efficiency once in the Theatre there was a lack of enthusiasm for visiting new places or gaining new experiences. All war interest had been lost with the end of the German War. The Japanese War was too remote for them.

Control of "TIGER" FORCE Squadrons.

144. No. 5 Group under the command of Air Vice Marshal H.A. Constantine C.B.E., D.S.O. had been selected as the first Group for deployment in "TIGER" FORCE. On 1st June the Air Ministry informed me that I was to direct the policy governing the preparation of my Force and to assume operational control of all Squadrons and Units as they were allotted to it but

> "as, however, you have not at present an adequate staff to enable you to take over full command, and as you and your Headquarters Staff are likely to be split for several months, it would be difficult for you properly and efficiently to control and administer the Squadrons and Ancillary Units allotted to you, it has been decided to leave "TIGER" FORCE Squadrons and other Units in Bomber Command until they leave the UNITED KINGDOM".

Permission was given to me to delegate operational responsibility to Bomber Command, but I was clearly to be responsible for, inter

/alia, Maying

alia, laying down standards to which Squadrons and Units were to be trained, preparation of establishments, and general organisation of the Force.

+ + + + + +

145. Thus, by the middle of June, some five weeks after the end of Phase I, we had moved the site for our probable deployment from MIYAKO to OKINAWA. The problem of a base for the Force had been solved.

146. There was also a most promising turn to the solution of the problem of logistic support and of shipping which was to carry this support to its destination. We were now in a position to negotiate "payment" for "our seat in the stalls". We had a suitable number of personnel with which to begin our negotiations with the Americans and thus hope to arrive at a satisfactory solution to the problem.

147. In this happy frame of mind we set off for WASHINGTON on the fourth visit.

CHAPTER V.

PERIOD JUNE TO SEPTEMBER, 1945.

148. The Directif for my visit to WASHINGTON as a result of instructions by the Chiefs of Staff was received on 17th June, and is at Appendix "D". In general its terms were similar to those of the report by the Principal Administrative Officers (see para.137).

Prime Minister's Signal to CANADA.

149. On 16th June, after advice by the Chiefs of Staff, the much delayed Signal was sent by the Prime Minister to the Prime Minister of CANADA (see para 140(d)) stating that we would have to provide 15,000 constructional troops at an early date and that we could find only 12,500. The Prime Minister asked CANADA to find the remainder, i.e. 2,500 or more if possible and to provide them not later than 30th September.

Visit to OTTAWA.

150. I arrived at OTTAWA on 25th June and saw the Canadian C.A.S. who told me that it was very unlikely he could provide 2,500 Canadian engineers. On my return to OTTAWA on 21st July to inform the C.A.S. of the progress of negotiations in the PACIFIC, he told me that no engineers would be provided. The C.A.S. stated he had written to the Air Ministry in March, that a contribution of engineers would be at the expense of Canadian Squadrons, and as he had not heard of a firm requirement since, it was now too late; the engineers were no longer available.

Fourth Visit to WASHINGTON.

151. The Planning Team arrived in WASHINGTON on 25th June. The Royal Air Force Delegation in WASHINGTON considered that, since General Arnold was in the PACIFIC and no reactions of Commanders in the PACIFIC to the V.L.R. project had been received, the visit should have been postponed to 1st July. As time was short in that "SHIELD" was at sea without instructions, and "VACUUM", the next convoy, was due for loading, their request had been overruled by the Chiefs of Staff.

WASHINGTON.

152. One of our first tasks in WASHINGTON was to obtain sailing instructions for "SHIELD", but we encountered an American Naval refusal to consider any further arrivals at OKINAWA, additional to the Super Fortress programme, until after 1st November, and sailings in the PACIFIC had, in any event, to be negotiated with Admiral Nimitz in GUAM. It will be recalled that the British Chiefs of Staff had given orders for the sailing of "SHIELD" without waiting for the approval of the UNITED STATES Chiefs of Staff; the first of its eight cargo ships (which all sailed in June) had left LIVERPOOL on 20th June, one day before the capture of OKINAWA. This was a difficult situation. We were also much concerned with our second convoy "VACUUM" which was due to begin loading. Our shortage of shipping was acute and we could not afford to risk convoys lying idle en route awaiting the planned date of arrival sometime after 1st November.

/153. Eventually it....

153. Eventually it was decided to take "SHIELD" but its acceptance was to be negotiated with Admiral Nimitz. We made no progress with "VACUUM".

GUAM.

154. We arrived at GUAM on 8th July having travelled by the quickest means possible and as guests of the American Government. The only stops were those of 40 minutes for refuelling, feeding and for taking on fresh flying crews.

Acceptance of "SHIELD" and "VACUUM".

155. Our arrival in GUAM coincided with the receipt of a signal by Admiral Nimitz stating that "SHIELD" had been sailed. This was not a propitious opening, for it was his first official intimation of British air participation in the PACIFIC, and he was astonished to learn that the first convoy was at sea. I found, however, that Admiral Nimitz and his Staff were most co-operative and helpful. By the end of our first day we were able to signal the Air Ministry that "SHIELD" had been accepted for OKINAWA and that the loading and sailing of "VACUUM" could proceed and would also be accepted.

Logistic Support.

156. At various conferences we worked out the problem of logistic support within the American overall plan for the development of the RYUKYUS as an air base. This responsibility had been placed on Admiral Nimitz as Commander of that area, and the person nominated by him for the task was Commodore Bissett, who was on OKINAWA. In the overall plan for the development of the air base it was proposed to deploy 96 Battalions of Army engineers each of 950 men per Battalion, approximately 30,000 men in Naval Construction Battalions and an additional big effort in man power for port construction and development, stevedores, petrol pipe lines and installations, roads etc. Thousands of troops who had fought in the battle of OKINAWA were working at full pressure on the construction of roads.

OKINAWA.

157. Having calculated our proposed logistic support with the Staff of Admiral Nimitz at GUAM we flew to OKINAWA with them on 12th July to discuss our proposals with General Stilwell, Commanding the 12th Army under Admiral Nimitz. Conferences had been arranged prior to our departure and during these we arrived at a most satisfactory solution for our deployment. It was emphasised by General Stilwell, and by the Naval Staff, that the key to the effective use of the Air Forces on OKINAWA would be the tonnage which could be unloaded over the beaches, as no port could be prepared for use for some time. The solution to the problem of unloading the bombs required, and of preparing Task Forces in OKINAWA for the assault on JAPAN, would indeed be very difficult and the margin, if any, would be very slight. For that reason no person was to be landed on the Island unless his presence was essential to the success of the operations, and no store was also to be unloaded unless it was equally necessary. It was therefore decided to plan on a super austerity basis, wooden accommodation being provided for essential offices and feeding places only, all living accommodation to be under canvas.

158. It was also decided to place all British construction troops in the Engineer Pool in the RYUKYUS under the orders of Commodore Bissett who was charged with the development of the air base.

/Commodore Bissett...

Commodore Bissett was asked to keep the British constructional troops together as much as possible to assist in administration and he promised to do so. It was likely, however, in view of the work already in hand on OKINAWA that our engineers with some American engineers, would be detailed to develop KIUME for V.L.R. airfields, a picturesque and delightful island some 70 miles to the West of OKINAWA, which I surveyed on foot.

MANILA.

159. On 14th July we had a conference with General MacArthur at his Headquarters at MANILA. One object of this visit was to explain the general position of our negotiations and our intentions. The General and his Staff made no comments but were very interested because of the approaching transfer of the Command of the area to General MacArthur from Admiral Nimitz.

160. Our other object was to negotiate the location and operation of a Staging Post in LUZON for the air route between the UNITED KINGDOM, INDIA, BURMA, LUZON and OKINAWA. General Kenny was very helpful but he stressed the congested state of MANILA harbour, the state of the roads and their inability to do as much work as they had intended on airfields particularly with runways and petrol pipe lines. They were extremely short of engineers and the whole area around MANILA would be crowded out with Task Forces for the assault on JAPAN, and the bringing forward into the central area of MANILA the immense number of men and quantities of war material from the various Islands in the PACIFIC, which perforce had to be left behind owing to shortage of shipping when the attack on the PHILIPPINES had been initiated. General MacArthur was rolling up his tail.

161. These conditions meant planning on an austerity basis. It was decided to place the Staging Post at CLARK FIELD 80 miles North of MANILA, which we visited and found very satisfactory. It was also decided, in consultation with the Navy, that the advanced element of the Staging Posts travelling in "SHIELD" and "VACUUM" would be back loaded in ships from OKINAWA to MANILA and then transported to CLARK FIELD.

162. We found everyone in LUZON most helpful.

GUAM.

163. We arrived back at GUAM on 15th July for our final conferences with Admiral Nimitz and his Staff on the logistic support and acceptance of convoys at OKINAWA. A copy of our report to the Chiefs of Staff is at Appendix "E". This report with that of the P.A.O's of 9th June (see para 137), are the two key documents dealing with the logistic support of "TIGER" FORCE.

164. The report shows that we obtained from the Americans almost everything we had set out to do. All convoys planned by the British Chiefs of Staff for 1945 had been accepted for OKINAWA with the particular type of personnel and equipment required in each convoy, with the exception of "SHIELD" and "VACUUM" which it was then too late to change. The planned details of each convoy are shown in Appendix "F" to this Despatch; they give an indication of the detail on which we had to negotiate and plan when in GUAM.

165. The Americans also agreed to the responsibility for discharging ships and lighterage, port operating and unloading and transporting from beaches to dumps until we were in a position to help. They also agreed to supply aviation and M.T. petrol, rations,

/canteen stores

canteen stores and airfield construction material. An outstanding concession on their part was their willingness to provide us with all manner of services for the "SHIELD", "VACUUM" and "FORTIFY" Convoys until we were able to provide them.

WASHINGTON.

166. We returned to WASHINGTON on 19th July to find the U.S.A.A.F. delighted with our progress in the PACIFIC. We were quickly in conferences in the Pentagon Building with General Spaatz, who had been appointed Commanding General of the Strategic Air Forces in the PACIFIC, and General Eaker, as Chief of Staff to General Arnold. One of the principal deficiencies in our negotiations had been that we were without knowledge of the precise airfields we would use on OKINAWA and though interest on this point seemed premature, as our engineers had not yet landed on the Island, we desired information. It was necessary to assist us in planning the transportation problems between the maintenance organisations and the airfields and the location of Force Headquarters and that of the Transit Camp and other Units in relation to both port and airfields. General Spaatz said the information would be given early in August and on 10th August he signalled the allocation of YONTAN as our first airfield.

167. In discussing deployment, General Spaatz asked for two "TALLBOY" Squadrons to be operational on OKINAWA by 15th October, as the Americans would have no similar Squadrons available until 1946 and the weapon would be required before the assault on KYUSHU on 1st November. We accepted this request. He stated that the targets would be five or seven large span road and rail bridges between TOKYO and SHIMONOSEKI and the tunnel connecting that town with the Island of KYUSHU, but he would have to discuss the matter with General MacArthur on 1st August before confirming the request. He confirmed this request by signal on 4th August, by which time all preparations were in hand in ENGLAND for the sailing of this requirement.

168. General Spaatz also asked for British representation within his own staff of One Air Vice Marshal, three Air Commodores, three Group Captains and one Wing Commander. I saw A.M.P. on my return and arrangements were in hand to meet this request.

169. It was also decided to reduce the incendiary bomb requirements; to base our repair and maintenance organisation on an American airfield which had been allocated for that particular purpose; to base the Advanced Headquarters of "TIGER" FORCE on OKINAWA by 15th August. I was to take up my appointment on the Island by the end of August.

170. General Spaatz accepted the deployment of the second half of the Force, i.e. ten squadrons; early in 1946. He promised to confirm this and to give details of airfields when I saw him again in August.

Press.

171. Whilst he was in the PACIFIC, (see para 151) General Arnold made a number of statements to the Press. In "The Times" on 19th June, he is recorded as saying :-

"The Combined.....

> "The Combined Chiefs of Staff intend to use British Air Forces including R.A.A.F. to the maximum against JAPAN. We plan during 1946 to drop thrice as many bombs on JAPAN as was dropped on GERMANY. They will be dropped in an area one tenth the size of GERMANY. Our plans call for the dropping of two million tons including the British contribution".

These statements emphasised and publicised British contribution to the bombing of JAPAN, but on my tours I was in the invidious position of being forced to remain silent because I had no authority to speak. Our participation was supposed to remain secret, although it was an open subject in the UNITED STATES. This naturally led to false statements and conjectures both in the UNITED KINGDOM and in AMERICA, and gave rise to the American opinion that the handling of our publicity of the PACIFIC project was naive. The release of information on the American side, and the suppression of it on ours, placed me in a very dangerous position, for provided American reporters speak to the person concerned, and it is impossible to avoid them perpetually, they invent an "interview" which is difficult to distinguish from the real one.

Return to ENGLAND.

172. We felt that "TIGER" FORCE was launched at long last. The first convoy was on its way, the second was being loaded and we were on good terms with all the American Commanders concerned. On our arrival in ENGLAND on 22nd July, however, we found that in our absence, it had been decided to cut the number of skilled engineers which we had used in our negotiations in GUAM by 50% and to replace them with unskilled personnel. This, with the failure of the Canadians to find their quota of 2,500 engineers, was unfortunate (para 150). However, when the Japanese War ended efforts were well in hand to restore the original engineer figures and to provide some troops in lieu of the Canadian engineers.

"TALLBOY" Squadrons.

173. Immediate arrangements were put in hand to prepare the two "TALLBOY" Squadrons for operations from OKINAWA on 15th October, Numbers 9 and 617 Squadrons, under the command of 5 Group, were the two Squadrons selected. An immense amount of work was necessary to prepare them for the task. At the end of the Japanese War the bombing averages of these two Squadrons computed to 20,000 feet and for all crews was :-

9 Squadron	-	110 yards.
617 Squadron	-	127 yards.

It was clear therefore that these Squadrons would have retained the lustre of Bomber Command achievements which had been earned in the German War.

174. The preparation of bombs, special cranes and trolleys, as well as the immense amount of equipment required by the two Squadrons, was a task of the utmost urgency. With the unstinted help of the various Ministries a special fast ship, the "Chinese Prince", was chartered and was due to sail on 25th August, 1945.

/175. Arrangements for...

175. Arrangements for the move of the personnel were no less urgent particularly in view of the shortage of personnel shipping. It was decided to send the personnel to CANADA by the "Duchess of Devonshire" on 20th August, rail them to VANCOUVER and there take advantage of the ship which had been provided for the 2,500 Canadian engineers. This ship was carrying the personnel of "SHIELD" and was due to unload at OKINAWA on 24th August.

Air Parties.

176. We had agreed with the Americans, during our visit to the PACIFIC, that until our Staging Posts were working at CLARK FIELD in LUZON and in OKINAWA they would give us all the assistance we needed on the ground to fly two weekly services to OKINAWA of two aircraft each service. We also agreed in view of the serious shortage of surveyors at OKINAWA, that the first service would include as many of these as possible.

177. The first service left ENGLAND on 30th July, but on the 14th August when a stand still order was made only three aircraft had left this Country. These were at DUM DUM, RATMALANA and OKINAWA respectively.

178. Two more aircraft were due away from NORTHOLT on 13th August with Air Vice Marshal A.C.H. Sharp D.S.O. and Staff and a light W.T. set, but in view of the tentative peace offers by JAPAN I had given orders to hold up their departure.

179. On 21st August I was due away for the PACIFIC to see General Spaatz.

Japanese Surrender.

180. On 6th August the first atomic bomb was dropped on HIROSHIMA, followed a few days later by another on NAGASAKI. The Russians invaded MANCHURIA on 8th August; these combined factors were seized on by the Japanese as face saving excuses in accepting terms of unconditional surrender on the 15th August.

181. The Japanese surrender naturally meant the end of "TIGER" FORCE. We had attempted something new in the history of the Royal Air Force, and it was unfortunate that the Force never operated for the experiences gained and lessons learned would have been most beneficial to posterity.

Convoys "SHIELD" and "VACUUM".

182. Meanwhile the convoy "SHIELD", carrying our first Airfield Construction Wing with small parties for "TIGER" FORCE Advanced Headquarters, Signals Section, Staging Post, Transit Camp, Base Area etc. had arrived in ENIWETOK at the time of the Japanese surrender. She was due for unloading in OKINAWA on 24th August, but in view of events the convoy was diverted to HONG KONG where she arrived on 4th September, the personnel taking part in disarming the Japanese and maintaining order.

183. The second convoy, "VACUUM", consisting of eight cargo vessels and one personnel ship, already more than half way to their destination, was diverted to SINGAPORE.

"TIGER" FORCE Staff.

184. At this time the total strength of the Staff of this Headquarters totalled 168 officers and 181 men. As "TIGER" FORCE was Commonwealth in conception it had been decided to share all staff appointments equally with the Canadians, also the command of units apart from operational Squadrons, Wings and Groups, which would be commanded by the nationalities manning them. The Canadians took every advantage of this decision and went to considerable pains to provide the most suitable officers for the various appointments and I wish to record my appreciation to Air Marshal G.O. Johnson, C.B., M.C. for his generous and wholehearted support.

185. There is no doubt that these arrangements would have demonstrated once again and cemented still further the close ties and mutual understanding between the Air Forces of the BRITISH EMPIRE which had been so evident throughout the various campaigns of the European and Mediterranean Theatres.

186. When the war ended the only Australian contribution to the Staff was the Senior Equipment Officer who would have served us extremely well. Other Australian Officers whom I had interviewed were joining later in OKINAWA.

Canadian Squadrons.

187. The Canadian Squadrons had been moved from the UNITED KINGDOM to CANADA for leave and were now based on airfields on the East coast of CANADA for training.

188. Air Vice Marshal C.M. McEwen, C.B., M.C., D.F.C., who was sick had handed over command of the Group to Air Vice Marshal C.R. Slemon, C.B.E., and all arrangements had been made to move ground personnel to OKINAWA from VANCOUVER when required and to fly the aircraft via the UNITED KINGDOM and INDIA to OKINAWA.

End of "TIGER" FORCE.

189. Shortly after the end of the Japanese War it was important that Officers should not remain on the Staff with little to do particularly as no decision was forthcoming on the immediate future. A considerable number of Officers were therefore posted and in the meantime steps were taken to close down "TIGER" FORCE Headquarters.

190. By 15th September the establishment was reduced to 16 Officers and 45 men with the intention of closing down "TIGER" FORCE on 31st October.

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191. This ends the narrative of events pertinent to the conception, build-up and planning of the Force. In the next two parts the story is considered from the Air Staff and Administrative aspects.

PART II.

THE AIR ASPECTS.

CHAPTER I.

AIRCRAFT, EQUIPMENT AND PERSONNEL PROBLEMS

Early Planning.

192. It has been shown in Part I of this Despatch that the early planning of "TIGER" FORCE was largely Administrative. In view however of the lack of firm information and decisions Air Staff planning began on as broad lines as possible when the following factors were obvious at the start and provided a basis on which to work :-

(a) The enormous operational distances in the PACIFIC and the fact of mounting an operation half way round the world would have a considerable influence on the Air Staff aspects of aircraft, equipment, personnel and operational technique.

(b) The lack of information about the Theatre and about the methods, results and difficulties of the American Heavy Bomber Force already operating in the PACIFIC meant that the Staff of "TIGER" FORCE had to work on many assumptions.

Later Planning.

193. When more information became available planning was still seriously handicapped by two factors :-

(a) The various changes of base for "TIGER" FORCE which was the crux of the Air Staff problem.

(b) The fact that the operation was a Phase II commitment made it impossible to get any priority until after the end of the European War.

194. Plans were produced for each new base, of which the details are recorded in the Historical records of "TIGER" FORCE. Some of the outstanding points, however, are discussed in the following paragraphs.

Provision of Aircraft.

195. In the very early stages of planning no base had been settled although FORMOSA had been mentioned; a range of 2,600 n.m. was therefore assumed as necessary. The Fighter Squadrons were to operate from some unlocated advanced base, but this fighter component was later cancelled when it became obvious from American experience that long range fighters were not necessary for night operations, and the Americans could provide any daylight fighter escorts which might be needed.

/196. The Lancaster

196. The Lancaster, to be followed by the Lincoln, were the only heavy bomber aircraft available for our operations; neither, however, were suitable in their existing state owing to their lack of adequate range. Various methods of improving the range and bomb load of these aircraft were therefore examined.

197. Sir Alan Cobham had already been requested to investigate the problem of refuelling Lancasters in flight. Theoretically, this offered considerable advantages since a much greater bomb load could be carried in every aircraft risked over the target than by normal methods, but there were two serious disadvantages. These were :-

(a) The high standard of formation flying required from the pilots concerned. Since all training in Bomber Command had been directed to night bombing, the attainment of this standard would involve a heavy training commitment.

(b) Flight refuelling had to be done in daylight and in an area free from the possibility of enemy interference. For a night bomber force this involved serious tactical limitations.

198. Alternative methods were therefore sought to increase the range of Lancaster and Lincoln aircraft. Minimum requirements were given as a bomb load of 4,000 lbs. with a safe range of 2,600 n.m. This was to be achieved for both Lancasters and Lincolns by the following methods :-

(a) Crew Training.

All pilots and flight engineers to receive a very thorough training in engine handling; after which it would be possible to accept a reduction in the safety margin allowed, from 25% to 15% of still air range.

(b) Extra Tankage.

Approximately 1,000 extra gallons of petrol were required in the Lancaster and 800 in the Lincoln to give the necessary range. This could not be stored in the bomb bays, since on shorter sorties aircraft would require all bomb hooks for bombs. A.V. Roe therefore designed a 1,200 gallon saddle tank to ride outside and on top of the fuselage.

(c) Increased All-Up-Weight.

At this time the Lancaster was authorised for take-off at 68,000 lbs. and the Lincoln at 75,000 lbs. These weights did not allow any bombs to be carried with the extra petrol, but A.V. Roe Ltd. promised to clear the aircraft at 72,000 lbs. and 82,000 lbs. respectively. To reduce the tare weights it was decided not to carry the mid upper turrets, since Japanese night fighter opposition was expected to be light.

199. With these modifications it was calculated that the following performances would be available :-

/(a) Lancaster.

(a) Lancaster.

Range of 2,600 n.m. with a bomb load of 4,000 lbs.

(b) Lincoln.

Range of 2,800 n.m. with a bomb load of 6,000 lbs.

200. The performance of the Lancaster was only just acceptable and it was planned to equip the whole Force with Lincolns. As the Lincoln, however, was having considerable teething troubles and the date of availability was uncertain, it was decided to order a saddle tank for both aircraft.

201. When it was eventually decided to move to the RYUKYUS saddle tanks were no longer required as the maximum range was reduced to 2,000 n.m. A 200 gallon overload tank could be fitted in the bomb bay for the long sorties.

202. Other types of aircraft were also needed for meteorological and photographic reconnaissance, and for Air Sea Rescue, but the only outstanding point concerning these was the difficulty of getting a firm decision about the availability of suitably modified Catalinas for Air Sea Rescue. The Pathfinder aircraft will be discussed later.

Aircraft Equipment.

203. Many changes in aircraft equipment were made as bases changed and more information about American experience became available. Three factors which considerably influenced aircraft equipment were :-

(a) The enormous over water distances to be covered on operations, particularly from the bases first planned in LUZON, produced two conflicting requirements. One was the need to include all possible aids to accurate navigation, the other was the vital necessity of keeping the aircraft weight to the minimum to allow a maximum amount of petrol and bombs.

(b) The shortage of shipping made it essential to keep the number of maintenance personnel and equipment as small as possible.

(c) The weather over JAPAN was such that 50% of all operations were expected to be blind attacks, and suitable equipment had to be provided to meet these conditions.

204. The conclusion from these conflicting factors was that some useful aircraft equipment must inevitably be omitted and this omission balanced by calling for a high standard of training of crews.

205. Another method adopted for saving weight in aircraft was the designing of "clip-in" installations - e.g. in the Radio Counter measures equipment - so that equipment could be removed easily if not required.

206. As planning proceeded and our own production difficulties with all forms of equipments came to light, it was clear that it would have been wiser to have begun detailed planning at least six

/months earlier.

months earlier. With many items it was a constant race against time to ensure production by the date required, and in some instances an inferior mark or type of equipment had to be accepted, e.g. H2S Mark II had to be fitted initially instead of the much more efficient Mark IVA.

Ground Equipment.

207. The same story of constant change and improvisation applied with ground equipment, much of which might have been avoided had detailed planning begun much earlier.

208. For example, flying control equipment for eleven airfields was needed in the early stages of planning, but this was reduced to equipment for one dual strip airfield by the time the base had been changed to OKINAWA, and even then it was doubtful up to the last moment if suitable equipment could be produced by the dates required.

209. A further example was the lack of intelligence material on which planning could be based, and even at quite a late date little had been arranged about the supply of this vital material.

Air Formation Signals.

210. This subject deserves a special paragraph due to the extreme difficulty experienced in getting any forward planning done whatsoever. Even a superficial examination revealed that the provision of the minimum ground communications was bound to prove a most difficult task. Yet nothing could be done until after the end of the European War. (Army had made no provision for "TIGER" FORCE up to 16th April, see para 74).

Aircrew Composition.

211. The need for long range planning of Heavy Bomber crews is well known. Detailed syllabi must be prepared, and the training of individuals begun, many months before the crews are required. Similarly any change in training cannot be effective in front line crews for a long time, especially when this training has to take place over 14,000 sea miles from the operational Theatre. The distances would have been even greater with the Canadian crews.

212. The crew composition was, therefore, settled as early as practicable when the Force was expected to operate as a "Very Long Range" Bomber Force. To avoid fatigue of individuals, duplicates were provided in each trade as far as possible. This crew requirement was later amended in the light of changed bases which meant much shorter sorties, but as this entailed a reduction rather than an increase of training it was easily arranged.

CHAPTER 2.

OPERATIONAL TECHNIQUE.

British Experts at Night Bombing and Sea Mining.

213. One of the reasons put forward as an advantage for the inclusion of a British Heavy Bomber Force in the direct attack on JAPAN was that we were experts at night bombing and sea mining. The Americans were doing both these types of operations by the Spring of 1945, although their technique was elementary compared with that developed by Bomber Command during the European War. It was planned, therefore, to use the Bomber Command technique as far as this could be made applicable to the vastly different conditions in the PACIFIC; and, in particular, to use the Pathfinder technique.

Pathfinder Technique.

214. Bomber Command had developed two forms of Pathfinder technique; that used by No. 8 Group and by No. 5 Group. The 5 Group technique was preferable for accuracy and economy of effort, but the method was built around the use of the Mosquito, which had insufficient range to operate from LUZON and we were compelled to adopt the 8 Group system in early planning.

215. When a base in the RYUKYUS became available, however, it was possible to introduce a Mosquito Marker Squadron and use the 5 Group technique. Shortly afterwards, detailed meteorological information and the experience of the Americans indicated that 50% of all operations would probably be blind attacks and, with the high winds and layered cloud usually to be found over JAPAN, any form of sky marking was likely to be impracticable. The decision was made, therefore, to train all crews up to a high standard of accuracy in individual blind bombing on H2S.

216. In a further effort to economise in the number of Pathfinder aircraft a third flight was added to the Mosquito Marker Squadron. The aircraft of this third flight were to be equipped with H2S Mark VI, and used for blind marking of suitable points followed by the minimum number of flare-carrying Heavy Bombers to assess the accuracy of the blind marking. Trials were in progress at the end of the Japanese War to determine the minimum number of aircraft needed for this method which showed promise of considerable economy, but no final conclusions were reached.

Effect of Organisation on Tactics.

217. The Order of Battle changed several times as planning progressed and conditions altered. In the early plans twenty squadrons were to operate from a number of airfields, permitting the Force to adopt the normal Bomber Command tactics of concentrating over a target and thus swamping the Japanese anti-fire and anti-aircraft defences. By the time the base had been changed to OKINAWA up to ten squadrons had to be operated from one dual strip airfield, and the time required to take-off this number of aircraft prevented any attempt at concentration over the target. The Americans had, however, already proved from experience that target concentration, which was essential in EUROPE, was unnecessary defensively over

/JAPAN because

JAPAN because Japanese night defences were so much weaker, The effect of this lack of target concentration on offence has not been analysed, although it must have reduced the effect of the incendiary attacks to some unknown extent.

218. A further difficulty arising from the time needed to take-off this large number of aircraft from one airfield was that any target indicators dropped by the Pathfinders at the beginning of an attack would have burned out by the time the later aircraft arrived. This meant re-marking a smoke and dust-obscured target half way through an attack; an almost impossible task unless it could be done on H2S Mark VI. When the Japanese War ended the problem had not been entirely solved, although it seemed likely that most of the larger area targets would be destroyed by the time of our arrival. We would probably have to attack a number of small targets in shorter attacks, thus obviating the need for re-marking. In fact in the final plan the first squadrons to be deployed were two "TALLBOY" Squadrons for attack of small precision targets with H.E. bombs, mainly by day.

Bomb Pattern.

219. The original plan for "TIGER" FORCE assumed that the Force would be used mainly for night incendiary raids against Japanese cities and the first bomb pattern was based on this assumption. Unfortunately, no suitable incendiary bomb was available. Japanese houses have raised floors and are of such flimsy construction that our main incendiary weapon, the 4 lb. bomb, had too high a T.V. and would pass right through the raised floor to bury itself in the earth before exploding. This simple fact should have been discovered by much earlier planning.

220. I attended a demonstration at the Building Research Station near WATFORD arranged to show the effect of various incendiary weapons against typical Japanese houses. The new 18 lb. magnesium dust bomb was easily the most effective bomb demonstrated. I asked for this weapon and said deficiencies could be made up with the 22 lb. 'J' bomb, but was told that both magnesium dust and napthalene for the 'J' bombs were in short supply and it was doubtful if these bombs could be produced in the numbers required. I protested against this waste of time in showing weapons which were not available. Once again earlier planning would have settled this problem.

221. Later information about American results showed that by the time we deployed most of the major area targets would have been destroyed and we should be required mainly for H.E. attacks and sea mining. Our bomb pattern was, therefore, revised accordingly.

Inefficient Aircraft Bomb Loads.

222. Another problem which might have been solved from experience in the European War was the inefficient bomb-carrying capacity of the Lancaster and the Lincoln; particularly when carrying an incendiary bomb load. This was especially noticeable when the Force planned to use bases nearer JAPAN. On the shorter range targets the maximum incendiary bomb load which could be carried was less than 50% of the total available lift. This inefficiency was not so great with a H.E. bomb load, but it was still apparent and no satisfactory solution has yet been found.

CHAPTER 3.

MISCELLANEOUS PROBLEMS.

223. A number of other problems are worthy of mention, although they are of varying importance. Some confirm conclusions already made; others show the need for further action.

Meteorology.

224. The Meteorological Branch had foreseen the need for early detailed study of the PACIFIC Theatre. Early in 1943 D.M.O. had made an Officer responsible for the study of the weather in this area, and this invaluable investigation was completed by the Spring of 1945. When the Meteorological Staff Officers of this Headquarters were established and appointed they were able to prepare, within a very short period, an excellent summary of the PACIFIC weather for planning purposes.

225. One of the conclusions was that weather reconnaissance aircraft were just as essential in the PACIFIC as in the European War, and a complete Meteorological/P.R.U. Mosquito Squadron was included in the Force. This squadron was later cancelled when the base was changed to OKINAWA because it was vital to keep the initial Force to the minimum. It was proposed to rely on the Americans for these two services.

Mining.

226. One of our roles was sea mining and the urgent need for austerity planning, particularly in ground equipment, was explained to the Admiralty. Nevertheless, it was insisted that large hangars should be provided to store the mines on the assumption that they would deteriorate if left exposed to the weather. This argument was difficult to follow in view of the fact that the mines were to be dropped in the sea later and were presumably expected to be effective after lying for weeks on the bottom of the ocean.

S.A.B.S. versus Mark XIVa Bombsight.

227. A controversy not yet finally settled concerns the relative merits of the S.A.B.S. and the Mark XIVA Bombsight. A careful analysis by Bomber Command showed that the operational accuracy of the S.A.B.S. during the European War was about twice as good as the Mark XIVA Bombsight. These results were so consistent over a number of operations that there is little argument, although curiously enough the practice bombing errors for July and August of the Mark XIVA Squadron (9) selected for comparison were better than those of the S.A.B.S. Squadron (617). The reasons for this reversal of previous trends is not known, but can probably be explained by changes of crews in the S.A.B.S. Squadron. One of the disadvantages of the Stabilised Automatic Bombsight is that it takes much longer to train a crew than with the Mark XIVA. A further disadvantage is that false settings cannot be used on the S.A.B.S. as is possible on the Mark XIVA Vector sight.

/F.N. 82 Gun Turret.

F.N. 82 Gun Turret.

228. This new turret had been accepted, apparently without adequate trials, because gunners soon found they could not stay in the turret except for short periods without suffering from cramp. Unless more room can be made for the legs it is doubtful if this turret will be of value.

Flying Control.

229. Much thought was given to the problem of controlling the landing of a large force on a limited number of airstrips in a congested area. The problem became acute when the base was changed to OKINAWA where we expected to operate some 200 aircraft from one dual strip airfield. Bomber Command had developed a system of local control around airfields, but something more was needed because of the greater congestion. Some form of distant control was wanted to regulate the arrival of aircraft in the vicinity of the airstrip, and a method of using the intersection of Radio Range and a V.H.F. track guide was being developed at the time the Japanese War ended.

230. There are many advantages in increasing the safe rate of landing of returning operational aircraft. A higher rate of landing means less petrol and more bombs. The accident rate is reduced and tired crews get longer rest. Research into this problem of distant control should, therefore, be continued.

Air Interrogation.

231. Another method of ensuring longer rest for tired crews is to reduce the time taken for interrogation on return. A scheme was produced whereby crews were to complete their own interrogation in the air as far as possible during the long return flights over the sea. This was to be followed by brief interrogations by specialist officers after landing. The idea seems well worth development.

Briefing.

232. The need for extreme economy in the amount of ground equipment to be shipped has been stressed. One of the difficulties created by this need for economy was the shortage of hutting with consequent lack of wall space and accommodation for the display of important maps, charts and other material essential for efficient briefing, interrogation and other operational activities. The Americans had solved this problem to some extent by using hinged boards, sliding panels and a host of other ingenious ideas. Unfortunately, the importance of designing such equipment in this country was not realised until after much of the hutting had already been loaded in the ships. It would be wise to devote some thought to this question now so that suitable designs are ready for any future operations in the field.

PART III.

THE ADMINISTRATIVE ASPECT.

CHAPTER 1.

INITIAL PLANNING AND PREPARATION.

233. Certain Administrative problems have been mentioned in Parts I and II to this Despatch as they arose and I have drawn attention to the magnitude of the Operation; this was particularly evident in the administrative planning. Many fundamental changes in organisation were necessary to meet the particular requirements of a Force which was to operate from bases over 14,000 miles from the main source of supply in the UNITED KINGDOM. These problems are examined as they appeared during the early stages of planning and from the Organisation and Maintenance aspects.

234. Detailed administrative planning started in the Spring of 1945. In view of the vast range of detail which had to be considered and the many shortages, notably of aero-engines, suitable hutting and, later, of shipping, it would have been of considerable advantage if this detailed planning could have been started much earlier. More time spent on planning would have meant less improvisation and improved efficiency.

235. The bulk of the supplies for "TIGER" FORCE had to go by sea from the UNITED KINGDOM via the PANAMA CANAL because the air transport which was likely to be available had to be limited to urgent freight and personnel reinforcements. This meant a two and a half months sea passage and on this paramount factor rested the whole of the administrative planning.

Provisional Plans Agreed.

236. In March, 1945 the following outline plan was agreed and provided a basis for planning on such problems as provisioning and initial preparations :-

(a) The Force to be supported entirely from the UNITED KINGDOM but provision of certain common user items to be negotiated with the Americans.

(b) A constructional Force to precede the main Force to prepare airfields and other essential operational facilities.

(c) The constructional Force to be followed by four Lancaster Squadrons and a Mosquito Squadron, supported by a maintenance base. The Force would be built up to twenty Squadrons equipped eventually with Lincoln Mark II aircraft, which at that time showed good prospects of starting production in June.

(d) Repairs in the Theatre to be limited to major inspections and category A.C. repairs. Aircraft requiring repairs beyond this would be flown out of the Theatre or scrapped.

/(e) Full hospitalisation,.

(e) Full hospitalisation. Major casualties to be evacuated by air to the UNITED KINGDOM.

(f) The equivalent lift of four squadrons of transport aircraft, under Transport Command control, to be allotted to the Force for covering the last stage from INDIA.

Preparation of First Convoys.

237. The first convoy was "SHIELD". Details are given in an annexure to this Despatch. The personnel element of the convoy consisted largely of airfield construction engineers who were assembled and equipped at HEDNESFORD. Later, all units, with the exception of the Signals Unit which was formed and given some training at CHIGWELL, moved to No. 1 P.D.C. WEST KIRBY and eventually sailed on 7th July.

238. All equipment for "SHIELD" was packed by Maintenance Units under orders from Air Ministry and assembled at HEDNESFORD. The task of checking this equipment in a packed state was impossible owing to the irregular arrival of consignments from the various units, and some confusion at the destination was inevitable. Strong recommendations were made, therefore, to form future units of the Force in the UNITED KINGDOM with their equipment prior to embarkation. Owing, however, to the lack of time this policy was not practicable.

239. Plans were also laid in the early Summer to prepare the first operational elements of the Force. These were intended to sail in the following convoys :-

(a) "HURST" - to sail on 1st August, consisting of a Nucleus Group Headquarters, four Lancaster Squadrons to be based on two airfields, one Mosquito Squadron and a Maintenance Unit.

(b) "PENCE" - to sail on 1st September, comprising two British and two Canadian Lancaster Squadrons.

240. Every effort was made to make "SHIELD" and subsequent echelons as self contained as possible. I considered that the long sea voyage, the uncertainty of the actual destination, and the conditions there made it necessary for each party to support itself for a reasonable period immediately following disembarkation.

241. You will recall that "SHIELD" was used for the occupation of HONG KONG and "VACUUM" was diverted to SINGAPORE. It was therefore fortunate that such pains were taken to ensure sailings with everything that was needed, including reserves of rations and fuel with a plentiful supply of N.A.A.F.I. commodities and Welfare amenities.

End of War in EUROPE.

242. The preceding paragraphs outline the progress made in planning and preparing the Force up to the end of Phase I, the surrender of GERMANY on 7th May. The destination of the Force was still unknown and a firm agreement with the Americans had not yet been reached as to when the Force could deploy or the conditions of entry into the Theatre.

243. With the end of the War in EUROPE the strength of my Staff was increased and we then began the preparation of the detailed Administrative Plan (see Appendix "G").

CHAPTER 2.

ORGANISATION.

The Advance Force.

244. At the end of May, 1945 the formation was approved of an Advance Force consisting of airfield construction engineers, 15,000 Army engineers and an operational element of eight Heavy Bomber and two Mosquito Squadrons. Planning, however, was to proceed on the assumption that there would be a follow-up Force of a further ten Heavy Bomber Squadrons.

245. A shipping allocation was made following the P.A.O's Committee meeting on 9th June, space being made available to move to the Theatre, by the end of 1945, an Advance Force of 34,000 including the 15,000 Army personnel.

246. I must emphasise, however, at this juncture that:

(a) Shipping allocation was not made until 9th June;

(b) insufficient shipping was allocated for personnel;

(c) the details of the necessary logistic support were not negotiated in the PACIFIC until middle of July.

These three main limitations, and at such a late date, left very little time for reorganisation and planning.

4,000 Royal Air Force Personnel Excluded.

247. Excluded from this Advance Force, however, due to shortage of personnel shipping, were 4,000 Royal Air Force personnel. This cut in a total Royal Air Force operational strength of 15,500 was so serious that it was deemed impossible for the Force to become operational in time if the majority of this balance of personnel were not moved to the Theatre by the end of 1945.

248. To make good the shortage the following action was taken:-

(a) Reduction of Establishments.

(b) Careful phasing of units by echelons in each convoy to allow sailings of urgently needed personnel.

(c) Using the air lift promised (but reduced as time went by.)

249. I must emphasise that uncertainty existed throughout as to the extent of the air lift. As this was linked with the shipping build up I was forced to make repeated last minute changes in the shipping tables.

Organisation Changes Needed.

250. When the shipping allocation was made in June it was necessary to review the whole organisation and to create new establishments for most of the units.

/251. It was.....

251. It was clear that Force Headquarters and a Group Headquarters controlling only ten squadrons would be top heavy and uneconomical. On the other hand a planning staff of a reasonable size was necessary in this country, especially as there was so little time to complete the detailed planning. I decided, therefore, to retain my existing planning staff but to deploy only a small Force Headquarters which would lay down policy in the field. Group Headquarters were to be responsible for all detail.

Maintenance Organisation.

252. Centralised maintenance is more economical than any dispersed system but the extent of centralisation depends largely on the proximity of operational units. As the proposed base for "TIGER" FORCE changed so did the planned maintenance organisation. When it was finally settled in July that the first ten squadrons were to be based on one airfield I decided to form one maintenance unit consisting of four depots for aircraft repair, general repair, equipment and explosives.

253. As detailed planning had started so late my planning staff were always racing against time, and much of the proposed reorganisation had perforce to be left until after arrival in the Theatre.

Airfield Organisation.

254. The operation of ten squadrons from one dual strip airfield created many interesting problems, one of which was to plan the most efficient airfield organisation. This problem is well worth a close study, because the construction of airfields for heavy aircraft is so very expensive in men, material and time that in future it may be necessary to operate many more aircraft from each airfield than is the practice at present. Provided sufficient space for hard standings can be found, the factor which limits the total number of aircraft which can be operated from any one airfield seems to be the time taken for take-off and landing.

255. It is impossible for one man to give the detailed attention necessary to ten squadrons without some intermediate Headquarters. It is essential, however, to have one control authority for each airfield. Flying Control problems alone make it clear that there must be an Airfield Commander.

256. I decided, therefore, that the first ten squadrons of "TIGER" FORCE were to be commanded by the existing Group Commander who was to be the Airfield Commander. He was to be given an appropriate Headquarters Staff and was to be responsible mainly for operations, including detailed planning. Certain administrative items, such as accounts, welfare and transport, were to be centralised under Group Headquarters.

257. Under the Group were three to five Wing Headquarters with two or three squadrons in each Wing. The Wings were to be responsible for the daily servicing, discipline and administration of their squadrons. They would, however, be dependent on the Group Headquarters for their domestic and major maintenance services.

258. Under this arrangement Wings would be responsible for preparing aircraft for operations and for briefing crews, but as soon as the aircraft taxied on to a runway their control would be taken over by the Airfield Commander. On completion of operational flights, the aircraft on reaching dispersal would return to the control of the

/Wing, which....

Wing, which would be responsible for interrogating crews and re-servicing the aircraft for the next sorties. On the maintenance side, any work involving repair, major inspection or power plant changing would be done by a centralised airfield maintenance section on request from the Wings.

Preparation of Units.

259. "TIGER" FORCE Headquarters was likely to be split in the middle of 1945 by having to build up its organisation in OKINAWA and still retain some control in ENGLAND and until this was done I was anxious to avoid accepting any executive responsibility in this Country, for which I had no facilities, communications or adequate staff. As a result it was decided to :-

(a) Form all units as far as personnel were concerned within the framework of other Commands mainly Bomber Command.

(b) Consign all equipment direct from Maintenance Units to the Theatre phasing its arrival to coincide with that of the units.

260. This procedure, which was applied to all units except those in the earlier convoys (see paras. 237-240), had the advantage of saving time and, from the equipment aspect, in ensuring that all items were tropically packed, documented and prepared for shipment by experts. It had, however, the serious disadvantage that units would match up with their equipment for the first time in the actual Theatre - a practice likely to lead to confusion and delay on arrival.

261. Had more time been available, of course, it would have been preferable to have formed each unit fully in the UNITED KINGDOM so that, before embarkation, personnel could have become familiar with their equipment and the conditions under which they were later to operate.

Phasing of the Force.

262. Until shipping was allocated for the Force in mid-June and the details known of logistic support arising from the negotiations in the PACIFIC in mid-July, it was impossible to plan in detail the phasing of units into the Theatre to complete the build-up. Outline plans were prepared, but became unrealistic when it transpired there was a scarcity of personnel ships, and when certain constructional troops had perforce to be given priority over the planned build-up of operational squadrons.

263. Details of the shipping allocated during 1945 are given in Appendix "F" from which it will be seen that the first convoy after "SHIELD" (ready for sailing early in July) was due to leave the UNITED KINGDOM on 1st August, with the next to follow a month later.

264. Preparations were already fairly well advanced for the Airfield Construction Wings, but some of the ancillary units, notably the Quarrying Flight, were still either in North-west EUROPE or not yet manned or formed.

Preparation of Equipment.

265. As regards the preparation of equipment, the average time required prior to sailing, under the procedure adopted was as follows :-

/Average time....

	Average time taken.
(a) Scales had to be selected for the appropriate packs. If not available - as was the case in a number of instances - new scaling had to be carried out and photostatic copies taken before the document could be issued by Air Ministry in the form of a task to the Maintenance Units.	10 days.
(b) Equipment had to be issued and tropically packed by Maintenance Units before preparation of the shipping documents (Forms 642) required by Movements for planning the stowage in the freight ships.	14 days.
(c) Time required by Movements between receipt of Forms 642 and date of sailings.	26 days.
	50 days.

266. It will thus be seen that a minimum of six - seven weeks was required for the preparation of equipment prior to sailing. A very small margin of time was given for the first convoys, particularly as details of build-up could not be completed owing to lack of earlier decisions. While it may have been impossible to avoid some of these late decisions, it is essential to appreciate the time needed for the preliminary preparation of a convoy when making any plan.

267. The whole procedure could be speeded up if the time required by Movements for pre-stowing a ship could be cut down, if there was more standardisation throughout the Service as regards scales of equipment, and if official information were issued for the use of staffs, on the following points :-

(a) Measurements of shipping, tonnage of equipment and M.T. of various units and formations.

(b) Annotation in schedule of items that can be transported by air, with dimensions and weights.

Air Transport.

268. The importance of air transport to support "TIGER" FORCE had been forseen and it was originally understood, although never confirmed, that the equivalent lift of four squadrons would be available for the route from INDIA to the Theatre.

269. A preliminary bid for the air lift required over the period of deployment was, therefore, submitted to the Air Ministry in May, 1945. As already mentioned, however, (para 248 (c)) it was found necessary to resort to air lift for making up the deficiency in personnel shipping space during 1945 and for carrying Headquarters staff to the Theatre. In June, therefore, a revised bid was submitted, incorporating a substantial trooping requirement in place of urgent freight.

270. Although this bid was within the original allocation of air transport, the Air Ministry said there would be some months delay

/before the

before the three Canadian and one Australian Transport Squadrons allocated would become operational. It was intended to use these to cover the whole route from the UNITED KINGDOM to the Theatre, owing to main trunk services being heavily committed with trooping to A.C.S.E.A. "TIGER" FORCE however were to make additional bids for the main trunk services, although no guarantee could be given and they would be subject to the normal priorities.

271. Although this problem was never finally solved, it became obvious that, in spite of early assurances, the requirements of "TIGER" FORCE in the second bid could not have been met.

272. At the end of the Japanese War, "TIGER" FORCE had received estimates of the air lift which, it was hoped, could be made available up to December, 1945. The latest Force estimates of air lift were within this capacity if they had been met satisfactorily.

273. This improvement was brought about by additional shipping space becoming available through the cancellation of the Canadian Airfield Construction Wing and through large ships being earmarked, giving a greater capacity than that officially allocated. The problem was thus well in hand up to the end of 1945, after which time practical experience should have enabled an accurate forecast to have been made for future freight and personnel requirements.

274. As the air and sea programmes, however, were inevitably bound together, it will be appreciated that the permanent uncertainty of what air lift would in fact be available involved many last minute changes in the composition of sea convoys and greatly complicated the planning of an orderly and efficient build-up.

Organisation of Army Elements.

275. The supporting Army elements, amounting to some 10,000 personnel including administrative troops, comprised mainly Air Formation Signals, Constructional Engineers, Pioneers, Port Operating Personnel, R.E.M.E. and R.A.S.C. Although it was agreed that the Royal Air Force would provide all the common administrative services such as hospitals, welfare and air transport, it was clear that an Army Force of divisional strength needed a Commander and Controlling Headquarters to carry out the Army administration for which the Army Commander was responsible to the War Office.

276. My aim was to weld the Army units into "TIGER" FORCE by adopting the highest possible degree of integration, thus achieving the maximum economy in manpower. I proposed an organisation, therefore, in which a senior Army Officer was placed under my command and given a small staff to work solely under his control. As regards the rest of the Army Staff required to control the various services common to the Royal Air Force and Army, this was to form a parallel staff with my own Headquarters and, wherever possible, the staff officers concerned would take over the control of similar Air Force units.

277. For example, as it seemed uneconomical for the R.E.M.E. to overhaul their vehicles in a separate shop to the Royal Air Force, I proposed to amalgamate the Royal Air Force and Army M.T. repair and to utilise the R.E.M.E. Staff Officer on my Engineer Staff. Several Royal Air Force posts could thus be reduced and a high degree of integration obtained between the two services. On purely military administrative matters, of course, the Army Commander would have full control of all Army Headquarters Staff.

/Accommodation and Hutting.

Accommodation and Hutting.

278. A major problem was the provision of accommodation and hutting. Even after detailed review and exercising super austerity, the total hutting necessary amounted to some 3,000,000 square feet. To conform to this figure it was necessary to use tents for all living accommodation and much of the storage, confining the hutments to offices, messes and essential technical buildings.

279. Anxiety about the hutting question was aggravated by the fact that the only types available were quite unsuitable for tropical use without modification and, consequently, alterations were necessary after arrival in the Theatre. The present standard huts, such as the Nissens, are not by any means suitable for the purpose; they have to be ordered in the widths required and are not readily dismantled for re-use; and they do not lend themselves to easy transport either by sea or land.

280. A hut should be designed of little more than one standard plate or section, made of insulating material and capable of being handled or transported without damage. Huts should also be made suitable for cold or tropical conditions by adding a further lining or giving adequate ventilation.

CHAPTER 3.

MAINTENANCE.

Repair facilities in the Theatre.

281. The fact that "TIGER" FORCE had no external resources as had Bomber Command has been stressed. This, coupled with the knowledge that there would always be a lapse of four months from the time any supplies demanded could arrive by sea, meant some repair facilities in the Theatre were essential to insure against failure in supply. To set up large repair depots is, however, a formidable undertaking.

282. A decision had, therefore, to be made exactly how much "TIGER" FORCE could afford to rely on supply and what repair facilities were essential in the Theatre, bearing in mind that time was all important and that little had been done to provide the trained personnel or equipment required.

283. Added to this was the fact that the Lancaster Squadrons were not organised for service under transportable or field conditions, much of the intricate ground servicing equipment being designed only for static use and dependent on permanent installations as used in Bomber Command.

284. Furthermore, some of the War Equipment Schedules were incomplete and out-of-date, the scales and actual details being found inappropriate to the needs of "TIGER" FORCE. Faced with the danger of stocks of aircraft spares in the Theatre being inadequate or inappropriate, and having to rely mainly on supply, considerable work had to be put in to create new scales and bring them into line with the latest information available from Service and M.A.P. sources. This should have been settled earlier had it been possible to do so.

Maintenance Organisation Adopted.

285. As there was the danger that the maintenance element of the Force would not be available in time owing to the non-completion of the War Equipment Schedules, it was decided to form a tentative organisation suitable for the original base in LUZON but sufficiently flexible for adaptation to any later changes in the base. Briefly, this organisation was to comprise the following :-

(a) Servicing Wings, each to provide first and second line maintenance for two Squadrons, including daily servicing, minor inspections, power plant changes and minor repair by replacement up to four days.

(b) A maintenance Wing to be formed under each operational Group of ten squadrons for third line maintenance, including preparation of power plants, servicing and testing components, category A.C. repair and light M.T. repair.

(c) A maintenance Group giving fourth line maintenance and supply backing for the whole Force in the shape of four depots as follows :-

/(i) An aircraft

(i) An aircraft Depot to undertake aircraft acceptances, major inspections and salvage.

(ii) A general engineering Depot for complete overhauls of aero engines, power plants, aircraft components and M.T.

(iii) Equipment and explosive Depots holding six months stocks for the whole Force.

Organisation for OKINAWA.

286. These plans were adapted for OKINAWA when it was known that ten squadrons would operate from one airfield on that Island and as a result the servicing Wings remained unaltered but the maintenance Wings were excluded, their function being centralised in the four Depots as mentioned above. There was to be no fourth line maintenance in the Theatre except for M.T. Whether or not the decision to delete all fourth line mainteance except M.T. would have proved satisfactory will not be known. If the supply of aero engines and spares had been as represented by the Air Ministry I feel that this organisation would have suffioed. I was, however, left in considerable doubt whether in fact the full quantity of aero engines required would have been forthcoming at the required rate.

287. Some further organisation would undoubtedly have had to be made after arrival in the Theatre in order to centralise the activities of the five servicing Wings working on the one airfield thus gaining greater economy.

288. The preceding paragraphs will give a general idea of the work entailed. In an effort to make up for lost time, agreement was given for the four Depots to be formed in the UNITED KINGDOM within No. 5 Group, but under the technical control of Force Headquarters. This would have enabled the personnel to form as complete units and given a limited amount of technical and field training before embarkation.

Aircraft Replacements.

289. The replacement of aircraft was to be effected entirely from the UNITED KINGDOM, over and above category A.C. repairs which, as already stated, were to be carried out in the Theatre. It was intended to hold 50 per cent wastage, out of which three aircraft were to be held behind each squadron in the operational Theatre and the balance in INDIA. The reason for this was, primarily, that there was insufficient room on OKINAWA to hold the full reserve.

290. The Air Ministry accepted responsibility for holding the reserve in the CAWNPORE area, it being agreed that aircraft would be prepared by Bomber Command and ferried out to the Theatre by Transport Command, all under Air Ministry arrangements. Replacement aircraft were not to be taken over by "TIGER" FORCE until actual arrival in the Theatre.

TOP SECRET.

C.S.A. (45) 69 (O)

16TH APRIL, 1945.

WAR CABINET.

PRINCIPAL ADMINISTRATIVE OFFICERS COMMITTEE.

V.L.R. BOMBER FORCE IN THE PHILIPPINES.

Report to the Chiefs of Staff.

+

As instructed we have examined the major administrative implications of the proposal to base the V.L.R. Bomber Force in the Cagayan Valley in North Luzon. In the time available we have only been able to make a broad examination based on provisional estimates.

Proposed Force and Phased Deployment.

2. The force to be deployed is as follows :-

20 Heavy Bomber Squadrons.
1 Pathfinder Squadron.
1 P.R./Met. Squadron.
1 A/S.R. Squadron.

together with the necessary Army and R.A.F. ancillary units.

In addition there are to be 4 Transport Squadrons but these will not be based in Luzon.

*

3. The phasing proposed by the Chiefs of Staff as a basis for examination was that 8 heavy bomber squadrons should be deployed 4 months after the arrival of the first administrative troops and that the build-up should be completed at the rate of 4 heavy bomber squadrons per month thereafter.

4. We have divided our examination into two parts :-

(a) In part 1 we examine the best rate of deployment which could be achieved if all the necessary resources were made available as soon as possible.

(b) In part 2 we examine the implications of making these resources available.

+ C.O.S. (45) 92nd. Meeting.
* C.O.S. (45) 80th. Meeting.

PART I - RATE OF DEPLOYMENT OF SQUADRONS.

Division of Responsibility.

5. For planning purposes we have assumed the normal division of responsibility between the Army and R.A.F., except as regards hospitalisation and signals communications. The Army's duties include the construction

/and operation.....

Division of Responsibility (Cont.)

and operation of the port, the construction and maintenance of road communications and petrol pipe lines. The R.A.F. will be responsible for airfield construction and for technical and base installations; they will require assistance from the Army for airfield construction. In addition there will be a Naval commitment for the administration of the port and protection of the anchorage. Annex I shows the division of responsibility between the Army and R.A.F.

We have not included consideration of defence of the area by land or air as this is an American responsibility.

Outline of Problem.

6. We estimate that the force required until construction is completed will be 106,000 men; thereafter the permanent strength of all three Services would not exceed some 69,000. A detailed analysis is given at Annex II; the main composition is as follows :-

R.A.F.

Squadron and ground maintenance personnel.	50,000	including Canadian and Australian contribution.
Constructional personnel.	17,000	
Administrative personnel.	4,500	

Army.

Permanent maintenance commitment.	14,300
Additional commitment during construction period.	20,200

Sufficient heavy bomber airfields are required to accommodate twenty heavy bomber squadrons, together with one base airfield. The time taken and personnel required to construct a two-runway airfield for four heavy bomber squadrons is roughly double that taken to construct a single-runway airfield for two squadrons, because the area of runways and taxy strips and the amount of technical accommodation is doubled. For the purpose of this paper, we have assumed that ten single-runway heavy bomber airfields and one base airfield will be provided. Some 120 miles of oil pipline will have to be laid.

The area is served by a single small coaster port, Aparri. Since the Americans have stated that no existing port capacity can be allotted anywhere in Luzon except at this place, we should be obliged to rely entirely on it with its adjacent beaches.

Weather conditions vary greatly with each month and affect the capacity of the port to such an extent that before we can estimate the capacity, we must decide on a date on which work can commence in the area.

Time Factor.

7. Only a negligible proportion of the personnel required to carry out the necessary construction work are now available and these would not form the basis of a balanced force. We assume that no personnel can be withdrawn from Europe before the defeat of Germany or from S.E.A.C. before the capture of Rangoon, both of which for the purpose of this paper we have taken as being 1st June, 1945. Thereafter, we estimate that personnel withdrawn from Europe will require two months for sorting and leave, a further two months for the voyage and a fortnight for acclimatisation and would thus be ready by mid-October.

/We consider that.....

Time Factor (Cont.)

We consider that personnel from S.E.A.C. would require 2½ months for withdrawal, sorting and local leave and a month for the voyage. They would not require acclimatisation and should therefore be ready by Mid-September. We consider on balance that the earliest realistic date for work to start should be taken as 1st October, 1945.

Port Capacity.

8. A preliminary study of the port of Aparri and the maximum capacity that could be developed through the port and over adjacent beaches is at Annex III.

The port itself is small and cannot accommodate ships drawing more than about 15 feet. Most of the personnel, stores and vehicles would have to be discharged into lighter or small craft in an anchorage exposed to the N.E. monsoon and landed on the beaches.

Our estimate of the capacity of the port and beaches is somewhat optimistic as regards the early stages, especially since the weather is at the worst in November and December. This factor has, however, been taken into account in our calculations although neither the possibility of typhoons nor convoy delays have been allowed for.

Completion of Airfields and necessary Installations.

9. Only limited work on airfields can start in the first month when stores are being off-loaded, roads extended and during which local resources of constructional material will have to be developed. In our calculations we have allowed for the use of existing Japanese airfield sites but in view of the considerable extension and development that will probably be necessary, we do not consider that the time taken to complete the V.L.R. airfields can be reduced below 3 full working months.

We estimate that airfields and necessary installations could be completed as follows :-

By 1st February 1946.	2	Heavy	Bomber	and	1	Base	Airfield.
" 1st March 1946.	4	"	"	"	1	"	"
" 1st April 1946.	6	"	"	"	1	"	"
" 1st May 1946.	8	"	"	"	1	"	"
" 1st June 1946.	10	"	"	"	1	"	"

The 1st February is therefore the earliest date by which any airfield can be made ready for use.

10. The constructional requirements have been assessed on the basis of tented domestic accommodation for the whole force, although the climate is such that huts should be provided at the first opportunity. Similarly the requirements for airfield construction have been calculated at the minimum.

Dates of Readiness for Operations.

11. Since we consider it advisable to allow a month after the completion of airfields for the arrival of the aircraft and for settling in and acclimatisation, squadrons could become fully operational as follows :-

1st March 1946.	4	Heavy	Bomber,	4	Transport,	1	A.S.R., 1 Met/P.R. 1 Pathfinder.
1st April 1946.	8	"	"		"		"
1st May, 1946.	12	"	"		"		"
1st June, 1946.	16	"	"		"		"
1st July, 1946.	20	"	"		"		"

/1st March, 1946.....

Dates of Readiness for Operations (Cont.)

1st March, 1946, is thus the earliest date by which the first V.L.R. squadrons could operate up to capacity.

12. The reserves required by the Air Ministry for this project are :-

Bombs.	6 months.
Technical equipment.	12 "
P.O.L.	3 "

Within the tonnage limitation only two months' reserve of bombs and technical equipment per squadron can be built up before a squadron becomes operational. Although this limited reserve cannot be increased appreciably until after the arrival of the whole force, if it can be kept at this level meanwhile it is considered satisfactory.

13. We conclude therefore that if all the necessary administrative personnel, shipping and equipment, and the naval forces for protection of the anchorage, are provided, owing to the limited discharge capacity of Aparri only 4 V.L.R. squadrons could be operational after 5 months, whereas the assumption given by the Chiefs of Staff was 8 squadrons after 4 months. Subsequently, the build-up of 4 squadrons per month is the same as the target given by the Chiefs of Staff.

The implications of making the necessary administrative resources available are examined in broad outline below.

PART II - ADMINISTRATIVE IMPLICATIONS OF MAKING RESOURCES AVAILABLE.

Personnel.

R.A.F.

14. With the exception of medical personnel the provision of personnel for the permanent force is not expected to present undue difficulty. The provision of adequate medical staffs will be important owing to the prevalence of tropical disease but they could only be found at the expense of other theatres of operations.

For the constructional tasks involved in building airfields and setting up base installations we estimate that 20,000 constructional personnel will be required. The total number of such R.A.F. personnel likely to be eligible for service in the Far East is approximately 7,000 but to apply this force to constructional tasks for the re-deployment of the V.L.R. Force would leave no R.A.F. constructional personnel for other overseas projects.

We are unable to assess with any degree of accuracy the size of the possible Canadian contribution of constructional personnel. For this examination we have assumed it to be 10,000.

There is thus a deficit of 3,000 constructional personnel to be found from other sources.

Army.

15. No provision for this project has been made in the allocation of Army resources. Even after the war with Germany, except for a few units, no Army personnel can be found except at the expense of other operational commitments as at present planned or by altering the demobilisation arrangements now approved by the Cabinet.

/Of the total.....

Army (Cont.)

Of the total Army personnel for this project some 9,500 are Royal Engineers (excluding Transportation personnel); the provision of these is particularly difficult. Under present plans, some 26,000 Engineers have to be found for the war against Japan in addition to those already in India and SEAC. Even this figure is considered barely adequate. The Admiralty has already stated a large requirement for Army Engineer assistance and an overall review of Engineer commitments is at present being made.

16. Certain savings in the total personnel to be provided by the Army may be effected by substituting local labour, if available, for Pioneers. If this proves possible, the Army commitment will be reduced by up to 13,900 in the constructional force and by up to 6,200 in the permanent force.

We consider, however, that we cannot plan on obtaining civil labour for the following reasons :-

(a) The area around the small port of APARRI is not densely populated.

(b) U.S. forces are already established on the island and will now be recruiting labour on a large scale.

(c) The rate of wages paid by U.S. forces will probably be more attractive than that offered by British forces. (WHY THE DIFFERENCE?)

17. The prospect of obtaining skilled Italian labour to make good the deficit cannot be assessed. Their employment on this project, assuming the Americans were prepared to accept them in the area, would be in direct conflict with the Navy's requirements.

Discharge to the shore at Aparri.

18. Personnel, stores and vehicles will have to be discharged overside from deep draught ships into lighters and thence over beaches inside the bar in the estuary of the Cagayan River. This will entail the provision of a large number of self-propelled lighters, of which those required initially must be brought to the area as deck loads in M.T. ships; or alternatively minor landing craft would be required which would have to be carried in L.S.C. and L.S.G. taken from the 1st Assault Force now allotted to S.E.A.C. The maintenance of these craft will require complementary personnel, installations and accommodation ashore. We do not consider that the Americans would provide for the lighterage commitment.

Personnel Shipping.

19. In the Combined Redeployment paper (COS.679/1) allowance was made for the despatch of 41,000 personnel of this force to the Pacific during the first six months after VE-day.

The increased numbers to be moved, when coupled with the later phasing as shown in Annex III, will require the use in the period September to December inclusive 1945 of some 30,000 trooplift over and above that already planned.

Based on the priorities accorded + by the War Cabinet, this would have to be provided at the expense of operational redeployment to India ("MINERVA") which would be cut by about 60,000 in this period.

The completion of the redeployment of this force will require a trooplift of some 50,000 spaces decreasing progressively between January and August, 1946. Until the examination of shipping requirements for the second six months after VE-day is undertaken, we cannot assess the implications of this second phase.

Dry Cargo Shipping.....

+ W.P. (45) 192.

Dry Cargo Shipping.

20. The first shipping would have to be taken up very early in July. Until the conclusion of the forthcoming review of dry cargo shipping requirements for the second half of 1945, the exact implications of providing the shipping cannot be stated, but from such studies as have already been carried out it is virtually certain that it could not be provided without completely crippling our provision for the proposed S.E. Asia strategy.

Large and Small Tankers.

21. White oil requirements work up to 1,700 tons daily (1,500 tons aviation and 200 tons M.T.) representing at least five large tanker sailings each month.

Discharging conditions, which are at present unknown, might preclude supply of bulk oil except in small tankers. If this proves to be the case, demands would be placed on S.E.A.C.'s fleet, which could not possibly be met without complete disruption of S.E.A.C's own arrangements for petrol supply in forward areas.

Material for Airfield Construction and bulk Petrol Installations.

22. Some of the airfield construction equipment and material required and all the necessary pipeline could only be obtained from American sources. The Americans have promised every assistance for the supply of equipment and material required for the V.L.R. Force. It is probable, however, that these demands may conflict with American requirements for their Pacific operations and our requirements in SEAC and for the British Pacific Fleet.

Alternative project on reduced scale.

23. Since it is clear from the preceding paragraphs that a project of this magnitude cannot be carried out without drastic revision of existing plans we have considered whether a revised project involving a smaller force would be feasible, using only the resources likely to be available after meeting planned commitments in N.W. Europe, S.E.A.C. and the Pacific. In these circumstances, although R.A.F. personnel would be available, lack of Army personnel and shipping of all kinds would make the project impracticable even on a reduced scale in the area proposed.

Conclusions.

24. We conclude :-

(i) Assuming the defeat of Germany and the capture of Rangoon by 1st June 1945, that all the required personnel, shipping and resources could be made available and that a two months' reserve were acceptable, squadrons could become operational as follows :-

1 March 1946.	4	Heavy Bomber, squadrons,	4	Transport,	1	A.S.R.
			1	Met/P.R.,	1	Pathfinder.
1 April, 1946.	8	"	"	"	"	"
1 May, 1946.	12	"	"	"	"	"
1 June, 1946.	16	"	"	"	"	"
1 July, 1946.	20	"	"	"	"	"

(ii) Whatever the size of force is ultimately decided upon the first squadron could not become fully operational until the 1st March, 1946.

(iii) The necessary personnel, shipping and equipment could only be made available at the direct expense of existing plans.

(iv).....

Conclusions (Cont.)

(iv) If planned commitments in N.W. Europe, S.E.A.C. and the Pacific are to be met, this project is impracticable; even on a reduced scale this project could only be carried out at the direct expense of existing commitments.

(Signed) T.S. RIDDELL WEBSTER.
A.F.E. PALLISTER.
J.S.T. BRADLEY.

Offices of the War Cabinet, S.W.1.

16TH APRIL, 1945.

ANNEX I.

For planning purposes we have assumed a division of responsibility between the Army and R.A.F. as follows -

Broadly speaking the Army will be responsible for -

(a) The construction and operation of the port.

(b) Transport from port to Base Depots.

(c) Road communications (incl. bridging).

(d) Construction and operation of POL pipeline.

(e) Establishment and operation of Base Supply Depot and issue of supplies.

(f) Assembly of vehicles and 3rd and 4th Echelon repairs.

(g) Limited assistance to the R.A.F. for airfield construction.

The R.A.F. will be responsible for all other construction operational and administrative functions.

ANNEX II.

PERSONNEL REQUIRED.

Army.

Commitment during Construction Period.

		Total Personnel.
Royal Engineers.		
Road Construction and Works Services.	6638	
Construction of Airfields.	3000	9638
Transportation.		
Port Construction.	295	
Port Operating and Maintenance.	5555	5850
Supplies and Transport.		
Transport.	1976	
Supplies.	729	
POL.	900	
Amphibian Platoon.	100	3705
REME		
Vehicle Assembly and Repair.		410
Signals.		
Air Formation Signals.		500
Pioneers.		
For work with RE, Tn, S & T, and REME.		13886
Miscellaneous.		
HQ. Staffs, Provost, AFS, EFI, Postal Medical etc.		500
Total Army Personnel.		34,489

Permanent Maintenance Commitment.

Royal Engineers.		
Maintenance of Bridges and Pipeline.	235	
Miscellaneous Technicians.	250	485
Transportation.		
Port Operating and Maintenance.		3,069
Supplies and Transport.		
Transport.	1633	
Supplies.	729	
POL.	900	3,262
REME.		
Vehicle Repair.		250

/Signals.....

ANNEX II (Cont.)

	Total Personnel.
Signals.	
Air Formation Signals	500
Pioneers.	6,219
Miscellaneous.	
HQ. Staffs, Provost, AFS, EFI, Postal. Medical, etc.	500
	14,285

Note: Pioneers could be replaced by local civilian labour, if available two civilians being required for one military.

R.A.F.

Squadron and Ground Maintenance Personnel.		50,000
Airfield Construction.		17,000
Permanent Administrative Personnel:		
Area H.Q.	300	
Supply and Transport Columns.	1,000	
Communications (Signals and A.F.S.)	850	
Transit Camp.	200	
Depot.	400	
R.A.F. Regiment.	800	
Hospitals.	1,000	4,550.

ANNEX III

APARRI - DISCHARGE FACILITIES.

The port of Aparri lies at the mouth of the Cagayan river which flows northwards into the North Pacific about 40 miles west of the North Eastern extremity of Luzon. The port has few facilities and might produce an initial capacity of about 1,000 tons a day, but by using the beaches within and without the port area it could be developed up to a maximum capacity in fine weather of about 5,400 tons a day.

This assumes clearance by road which could only take place along the eastern bank of the river since it is unbridged and unfordable.

2. The port itself could not accommodate vessels drawing more than about 15 ft. and not many of them. Larger vessels must discharge at anchor about 1½ miles from the bar in an exposed anchorage, to lighterage and amphibians.

3. In time of storm they would have either to seek the open sea or run for shelter to San Vicente about 35 miles E.N.E. of the port. The possibility of other sheltered anchorage is under investigation, as San Vicente is limited to about 6 Liberty ships of the 12 to 14 required at any one time.

Weather.

4. The following information has been obtained from the Admiralty :

Month.	No. of days on which waves may be expected off entrance.	
	(a) 3 to 5 ft.	(b) Over 5 ft.
Jun.	Nil.	Nil.
Jul.	Nil.	Nil.
Aug.	Nil.	Nil.
Sept. (probably towards end of month).	3	1
Oct.	4	4
Nov.	4	14
Dec.	4	14
Jan.	5	11
Feb. (29 days),	6	8
Mar.	4	6
Apr.	4	3
May. (beginning of month).	2	1

From towards the end of September when the N.E. Monsoon starts the weather becomes worse, until November, and starts improving slowly about mid January, and finally recovers about middle of May.

5. Typhoons. An average of about 7 typhoons per year pass within 200 miles of Aparri and may prove to be destructive, 3 passing to the north and 4 to the south. The most likely months are July to October, but May, June, November and December, are possible months. Those passing to the southward or very close northwards will cause very heavy seas as well as strong gales at the entrance to the river.

If a typhoon passes to the southward there will be a 5 ft. or more swell at the anchorage for perhaps 2 days before-hand but the sea will calm down quickly after it has passed.

/If it passes.....

If it passes to the northward there may be a bad swell for 24/36 hours during which time there will also be strong or hurricane force winds from an off-shore direction, i.e., in the former instance the duration of bad swell followed by bad sea conditions is about 3 days, whereas in the latter instance it is unlikely to exceed 36 hours.

Warning of at least 24 hours should be assured if arrangements are made for weather reports from 300/500 miles to East S.E. by submarines, aircraft or surface vessels.

Phased discharge through port.

6. Based on the estimated development of the port and beaches and having due regard to the build-up of a balanced constructional force and priority of work, we estimate that, assuming work started on 1st October, 1945, personnel and tonnages should be landed from convoys, suitably phased, as follows :-

	PERSONNEL.		TONNAGE.		VEHICLES.	
	R.A.F.	Army.	R.A.F.	Army.	R.A.F.	Army.
October 1945.	5,700	11,800	13,300	11,790	550	1,196
November.	11,650	9,980	33,500	10,000	1,450	655
December.	3,050	11,099	55,800	10,000	1,500	488
January 1946.	7,650	1,200	67,400	4,500	1,230	-
February.	12,000	410	63,300	3,100	480	18
March.	10,000	-	65,500	9,000	430	-
April.	10,000	-	74,800	1,400	430	-
May.	8,000	-	67,300	1,400	430	-
June.	4,000	-	58,800	1,400	130	-

P.O.L.

7. Aviation Spirit will be brought ashore by floating pipeline and/or small tanker and delivered at airfields by means of 6" pipeline.

POL requirements based on 45 days reserves are as follows :-

Aviation Spirit.	Bulk Storage at base.	60,000 tons.
	Bulk Storage at airfields.	7,500 tons.
	Daily offtake.	1,500 tons.
M.T. Spirit.	Bulk storage.	9,000 tons.
	Daily offtake.	200 tons.

TASK FORCE COMMANDER'S DIGEST

APPENDIX 'B'.

C.S.A. (45) 77 (O).

TOP SECRET.

27TH APRIL, 1945.

WAR CABINET.

PRINCIPAL ADMINISTRATIVE OFFICERS COMMITTEE.

BASE FOR V.L.R. BOMBER FORCE - REVISED PLAN.

Report to the Chiefs of Staff.

+

We have examined, as invited, the major administrative aspects of the establishment and maintenance of the V.L.R. Force in Miyako Jima. We must point out that the topographical information which we have been able to obtain in the short time available is scanty; the views expressed in this paper are therefore provisional and subject to revision in the light of reconnaissance of the island, which will be essential.

Proposed Force and Phased Deployment.

2. The force to be deployed is as follows :-

20 Heavy Bomber Squadrons.
1 Pathfinder Squadron.
1 P.R./Met. Squadron.
1 A/S.R. Squadron.

together with the necessary Army and R.A.F. ancillary units.

In addition there are to be 4 Transport Squadrons but these will not be based in the island and will use existing staging facilities.

*

3. The phasing proposed by the Chiefs of Staff as a basis for examination was that 8 heavy bomber squadrons should be deployed 4 months after the arrival of the first administrative troops and that the build-up should be completed at the rate of 4 heavy bomber squadrons per month thereafter.

4. In this paper we have made the following assumptions :

(a) That the operational problems caused by basing 20 heavy bomber squadrons on such a small island can be overcome by appropriate flying control measures;

(b) that the fighter and A.A. defence of the island will be an American responsibility and we have not made any allowance for these in our calculations;

(c) that there will be no commitment for ground defence of the island.

+ C.O.S. (45) 107th Meeting, Item 16.
* C.O.S. (45) 80th Meeting, Item 17.

Description of the Island.

5. (a) The Island is of coral limestone covered in certain areas by 3 ft. of soil and roughly triangular with sides of 12 miles by 12 miles by 16 miles. The South-western portion is flat and good for air strips, while the remainder is less suitable because of a series of ridges rising to as much as 300'.

/(b).....

Description of the Island (Cont.)

(b) The only port is Hirara which has three small concrete jetties. Depth of water is 3 ft. at low water and the mean rise and fall is 6 ft. As far as is known there are no beaches suitable for discharge, and a months work is likely to be required for developing the port, construction of hards etc., before any substantial tonnage could be cleared.

(c) A well developed system of 9 ft. coral surfaced roads connects the existing airfields and the larger towns. The present road net-work will enable work to start although additional roads and widening of some of the existing roads will be required later.

(d) The Island has a sub-tropical maritime climate with moderate temperature, much cloud and heavy rains. As regards health, an unconfirmed report states that malaria has been eradicated but intestinal infections, typhus, dengue and skin diseases are likely to be met.

(e) From intelligence available, it is apparent that the existing water supply as at present developed is meagre but probably susceptible of improvement by 100 - 200 foot bore. If re-connaissance establishes that the water supply is inadequate special measures will have to be adopted. A note on water supply is at Annex II.

(f) In 1940, the Japanese population of the Island was approximately 50,000. The Capital, Hirara, is the administrative centre for this group of islands and contains the main civic buildings. Apart from Hirara there are a number of other settlements scattered about the Island.

We do not consider that internal security problems are likely to be particularly serious but units of R.A.F. Regiment will be included in the force for internal security duties and anti-pilferage. The inhabitants could not be relied upon to provide labour during the build-up period.

Port Capacity and Anchorages.

6. A preliminary study of the port of Hirara and the maximum capacity that could be developed through the port is at Annex II. The port itself is very small and cannot even accommodate coasters. All personnel, stores and vehicles would have to be discharged into lighters or small craft and subsequently over hards which would have to be prepared on the foreshore, or to the existing jetties improved as much as possible as time and means allow. It is estimated that 114 R.C.Ls. and 96 DUKWS will be required besides numerous other harbour craft.

7. The weather would not seriously hamper discharge at any period of the year, though during the N.E. Monsoon (October - March) there would be occasional considerable swell in the anchorages. The risk of typhoons is slight.

8. From the information available it is possible that sufficient anchor berths might be found for merchant ships, but this cannot be stated with certainty without a survey. Our calculations have been based on the assumption that four anchor berths can be found within 3 miles of the jetties at Hirara and the remainder within five miles.

9. Before any of the in-shore anchorages could be used, surveying would be necessary to confirm the soundings in the approaches and to mark the channel limits.

Airfields etc.....

Airfields and Installations Required.

10. Sufficient heavy bomber airfields are required to accommodate 20 heavy bomber squadrons, together with one base airfield. The time taken and personnel required to construct a two-runway airfield for four heavy bomber squadrons is roughly double that taken to construct a single runway airfield for two squadrons, because the areas of runways and taxi strips and the amount of technical accommodation, is doubled. Without further information we cannot say how many single and two-runway airfield sites can be found or whether a sufficient number of airfields sites can be found in this small island to accommodate the full number of squadrons. This must depend upon the outcome of a detailed reconnaissance. We have assumed that it is possible that these airfields can be built although they may not be more than 1½ miles apart, and some runways may have to be as much as 45° out of the prevailing wind. Dispersal areas for aircraft will be extremely limited, and domestic and technical accommodation very congested. This may be unacceptable from the point of view of enemy air attack.

11. In the first month, which is devoted to work on development of the ports and exits, no work on airfields can be done. Work on airfields can start in the second month when stores are being off-loaded, machinery assembled, roads extended or repaired and during which local resources of constructional material will have to be developed. In our calculations we have allowed for the use of three existing Japanese airfields in the south western plateau. But in view of certain extensions and the considerable repairs which will probably be necessary, we do not consider that the time taken to complete three runways can be reduced below two months after the arrival of the first airfield construction personnel. Each of the remaining runways will require two full working months to complete.

12. We estimate that runways and necessary installations could be completed as follows, where D-day is the date of arrival of the first convoy:-

D day + 3 months.....	2	Heavy bomber	runways	and	1	Base Runway.	
D day + 4 "	4	"	"	"	"	"	
D day + 5 "	6	"	"	"	"	"	
D day + 6 "	8	"	"	"	"	"	
D day + 7 " 10		"	"	"	"	"	

The constructional requirements have been assessed on minimum scales of technical accommodation and tented domestic accommodation for the whole force. Similarly, requirements for airfield construction have been calculated at the minimum.

Material for Airfield Construction and Bulk Petrol Installations.

13. Some of the airfield construction equipment and material required could only be obtained from American sources. The Americans have, however, promised every assistance for the supply of equipment and material required for the V.L.R. Force. All bulk petrol equipment can be provided from British sources except for some tankage.

Division of Responsibility.

14. For planning purposes, the division of responsibility between the Army and R.A.F. is as shown in Annex I. The Army's duties include the construction and operation of the port, the construction and maintenance of road communications and petrol pipelines and tankage. The R.A.F. will be responsible for airfield construction and for the construction of all accommodation. The Navy will have to undertake the survey and organisation of the harbour area and protection of the anchorages.

/Strength of force.....

Strength of Force.

15. Navy. There will be a Naval commitment for the patrol of the approaches to and underwater defences of the anchorages, the survey and marking of these areas and a port party under a N.O.I.C.; in addition escorts for the convoys will be required. It will probably be necessary to provide escort vessels to carry out the patrolling of the anchorage approaches. Thus, naval logistic support will be needed at Miyako Jima.

Army. The Army commitment is :-

Permanent maintenance personnel.....	7,200 (incl. 200 R.E.).
Additional during constructional and build-up period	5,650 (incl.1500 R.E.).

Army. Details of the Army personnel are at Annex III.

R.A.F. The R.A.F. commitment, including Canadian and Australian contribution is :-

Permanent:

Squadrons and supporting ground units.	46,000
Maintenance of airfields etc.	5,000
Additional during constructional period.	
Constructional personnel.	9,500
Administrative personnel.	2,000

The total Army and R.A.F. force required until construction is completed will be 75,350; thereafter the permanent strength will not exceed 58,200.

Time Factor.

16. Only a small proportion of the personnel required to carry out the necessary work on the port and airfields are at present uncommitted to operations and these would not form the basis of a balanced force. The majority of such personnel will have to be withdrawn from operational theatres.

The time factor is as follows :-

	Personnel withdrawn.		
	From Europe.		From S.E.A.C.
	Army.	R.A.F.	
Sorting and leave.	3 months.	2 months.	2½ months (includes local leave only).
Voyage.	2 months.	2 months.	1½ months.
Preparation of Ports and exits.	1 month.	1 month.	1 month.
Total period before work on airfields starts.	6 months.	5 months.	5 months.

It is estimated that Canadian constructional personnel in Canada can be organised and shipped to arrive concurrently with personnel from Europe and S.E.A.C. Therefore, if the first Army personnel can be withdrawn from S.E.A.C., and assuming, for the purpose of illustration, that withdrawal of personnel begins on 1st June, work on the port could start by 1st October and on airfields 1st November. If they have to be withdrawn from the Continent of Europe there will be a month's delay on these dates. According as the date of withdrawal is advanced or retarded, the dates in the following paragraphs will be correspondingly altered.

/Shipping.....

Shipping.

17. (a) Personnel Shipping.

To achieve the planned build-up of the force the monthly lift required will be as follows. These figures are based on the assumption that all forces other than Canadian will originate in the U.K., since no more detailed information is available at this stage :-

1945.	Aug.	Sept.	Oct.	Nov.	Dec.
	6,600	24,500	47,300	58,800	56,900

1946.	Jan.	Feb.	Mar.	Apr.	May.	June.
	42,700	26,500	25,800	19,200	10,200	1,800

(b) Dry Cargo Shipping.

The dry cargo shipping requirement is difficult to determine in the absence of a detailed analysis of the material to be moved. However, a first approximation would indicate some 20 sailings a month for the first two months, thereafter 15 for the next three months decreasing to 10 sailings a month from April 1946.

The route and the passage time are not yet definitely known, but it would seem that some three months overall would probably be required for loading and passage time, thus the first shipping would have to be taken up in the middle of July.

Furthermore, due to the lack of cargo for loading in the Australia/Pacific area it is considered likely that after discharge at Miyako Jima, ships would proceed to the U.S.A. to load for U.K. Thus on this basis it is estimated that the nett cost in ships' time would average not less than 4 months for each sailing.

Thus the number of ships which would be lost to other employment up to the end of 1945 is estimated as follows :

Mid July.	Aug.	Sep.	Oct.	Nov.	Dec.
4	20	40	55	66	65

From December 1945 the number will decline gradually to a minimum of 40 in April, required for permanent maintenance.

(c) Large and Small tankers.

White oil requirements reach a maximum of 1,160 tons daily (1,000 tons aviation and 160 tons M.T.) representing at least four large tanker sailings each month.

The present intention is to discharge from tankers 2 to 3 miles off shore by a ship to shore pipeline. If discharging conditions, at present unknown, restrict the direct delivery of oil from large tankers, the provision of oil barges and possibly small tankers will be necessary.

/Reserves.....

Reserves.

18. In order to economise on shipping and storage space at the base we have calculated our initial reserves of bombs and P.O.L. on what are considered minimum safety standards, i.e., 3 months reserve of bombs and 1½ months' reserve holding of P.O.L. These could, if necessary, be increased after the arrival of the force.

Amenities.

19. We must emphasise that all calculations in this paper have been made on an austerity basis; all personnel will be in tents and there will be no amenities except such as normal N.A.A.F.I. services on a field basis. We foresee that demands for improvement in living conditions and amenities for the force are bound to arise involving continuing demands for construction material with corresponding cargo shipping space.

Alternative Project.

20. It is possible that detailed reconnaissance may show that limitations of discharge facilities and sites for airfields may limit the size of the force to something less than the target figure of 20 squadrons. It also seems likely that the efficiency of the squadrons will be adversely affected by concentrating them in so small an area. We have, therefore, considered it advisable to estimate the effects of a reduction in the force to say, ten squadrons. We find that to achieve the same initial rate of construction the same number of constructional personnel will be required, though for a shorter period, and that the reduction in tonnage and personnel to be shipped and handled through the port will be negligible for the first four months. Thereafter, the requirement for personnel shipping will be very considerably reduced and that for cargo shipping reduced by approximately 50%, but, whatever the size of the force, the first squadron could not arrive before the beginning of January, 1946.

Conclusions.

21. We conclude :-

(i) Assuming all personnel required in the first month's flight could be relieved from present commitments from 1st June 1945, and that shipping and resources could be made available, airfields could be prepared by the following dates :-

1st January 1946	-	2 Heavy Bomber and 1 Base Runway.
1st February 1946	-	4 Heavy Bomber and 1 Base Runway.
1st March 1946	-	6 Heavy Bomber and 1 Base Runway.
1st April 1946	-	8 Heavy Bomber and 1 Base Runway.
1st May 1946	-	10 Heavy Bomber and 1 Base Runway.

(Each Heavy Bomber airfield accommodates two Heavy Bomber Squadrons; thus the planned total of 20 Heavy Bomber Squadrons could be accommodated by 1st May, 1946).

(ii) Whatever the size of force is ultimately decided upon, based on the above assumptions, the first airfield could not be completed until the 1st January, 1946.

(iii) Whatever size of force is ultimately decided upon as the maximum which can be accommodated on and operated from this small island, if the Americans share the airfields, and even if they operate their bombers only by day, it will cause an equivalent reduction in the V.L.R. bomber force, owing to the limited ground space available for dispersal areas and camp sites etc.

/(iv).....

Conclusions (Cont.)

(iv) The above conclusions depend upon the large number of assumptions, particularly as regards the number of ships that can be discharged simultaneously and the number of airstrips which can be found and operated. The assumptions can only be confirmed or modified by actual survey and reconnaissance of the anchorage and the island.

(Signed) T.S. RIDDELL WEBSTER
A.F.E. PALLISTER.
J.S.T. BRADLEY.

Offices of the War Cabinet.
S.W.1.

27TH APRIL, 1945.

ANNEX I.

For planning purposes we have assumed a division of responsibility between the Army and R.A.F. as follows :-

Broadly speaking the Army will be responsible for :-

(a) The construction and operation of the port.

(b) Transport from port to Base Depots.

(c) Road communications (incl. bridging).

(d) Construction and operation of POL pipeline and tankage.

(e) Establishment and operation of Base Supply Depot and issue of supplies.

(f) Assembly of vehicles and 3rd and 4th Echelon repairs.

The R.A.F. will be responsible for all other constructional, operational and administrative functions.

ANNEX II.

1. DESCRIPTION.

Miyako Jima is a triangular-shaped island. The base is at the south and has a maximum dimension of 12 nautical miles. The west side has a length of 12½ miles and the north-west side 16½ miles.

On the north-east and south sides of Miyako Jima there is a nearly continuous fringing coral reef, 100 to 500 yards wide. The shore line is irregular in detail but has only one significant embayment, one mile by two miles, in the middle of the north-east coast.

On the west coast the coral shelf is narrow and discontinuous but the waters are shallow for a considerable distance off shore. Sand shoals are very irregular.

Two embayments on the west and one on the south-west are very shallow.

The coast of Miyako Jima is nearly everywhere precipitous.

On the north-east there are a number of short sandy beaches, none over 800 yards long. They are separated by rocky headlands and everywhere backed by very steep and rough limestone slopes and cliffs, 100 to 300 feet high.

The southern coast is similar to the north-east except that there is but one short beach at the base of the sea cliffs.

On the west side of Miyako Jima there are numerous pocket beaches but they are very small and are backed by precipitous slopes up to 100 feet high and separated by very rough rocky cliffs often undercut.

The most extensive beaches on Miyako Jima border the peninsula forming Junk Bay. They are backed by relatively low, rough, wooded escarpments. The approaches are obstructed by a broad area of irregular sandy shoals and patches of reef, but access inland is probably the least obstructed of any of the island's beaches.

2. WATER SUPPLY.

From the intelligence available it appears that the existing water supply is very meagre. From the rainfall statistics and from the geological information, there should be a considerable body of comparatively fresh water under the island which ought to be sufficient to meet the requirements. But until the first bore-hole has established both the height of standing water above sea level and the quality of the top of the water table, it is not possible to estimate the actual quantities available, as other factors, such as fissuring in formation, may adversely affect the position.

The danger is that if the rate at which the water is drawn off is greater than the capability of the island, the quality of the water will deteriorate rapidly, would become undrinkable, and would recover only if pumping is stopped for a long period.

If reconnaissance does not establish the adequacy of the water supply, special measures will have to be adopted.

WHARVES AND HARBOUR FACILITIES.

3. There are no alongside berths for ocean going ships, and discharge, therefore, would be at anchorage overside to craft and amphibians.

Terminal facilities at Miyako Jima are limited to use by small craft.

/The principal.....

3. (Cont.)

The principal loading jetty is at the town of Hirara. It is situated just north of the observation point and extends about 300 feet out from the shore in a north-west direction, and is reported to have only three feet of water alongside, presumably at mean low water. This pier is of concrete construction.

One hundred yards north of the main loading jetty is a small jetty, less than 100 feet long, with a short dog leg extension. This jetty forms a small boat basin on the north side of the main jetty.

Two additional smaller jetties, not over 75 feet long, are situated on the waterfront, 100 and 300 yards respectively south of the main jetty.

ANCHORAGES.

4. It has been indicated by the Admiralty that before any definite statement can be made on the number of anchorages available in the area to accommodate ocean going shipping, a survey would be necessary. It has been estimated, however, that it is probable that an anchorage for four cargo or personnel ships would be available about $2\frac{1}{2}$ miles from Hirara and that another anchorage could probably be expected about five miles from the town for an additional four ships. Part of the near shore anchorage would be required for one tanker.

The capacity of the port is therefore limited by -

(a) the few port facilities and absence of suitable beaches necessitating a large lighterage commitment and

(b) The restricted anchorage accommodation for ocean going shipping.

5. TIDAL DATA.

High water springs	-	6 feet.
High water neaps	-	$4\frac{1}{2}$ feet.
Mean tide level.	-	3.6 feet.

6. WEATHER.

The anchorage is sheltered from all winds, other than those between north (and NNW if anchored on the eastern side of the bay) and west. This ensures calm conditions on probably every day from May to August.

Apart from occasional tropical storms, a sea or swell exceeding 3 feet can be expected, on the average, on the following number of days during the rest of the year :-

Sep	-	2	On about two-thirds of these days waves will be 5 feet or more.
Oct	-	3	
Nov	-	4	
Dec	-	6	
Jan	-	5	
Feb	-	4	
Mar	-	3	
Apr	-	2	

Typhoons. - From May to mid-October there is a reasonable chance of a typhoon passing close by say twice a year for the whole period.

From mid-October to December there is a very slight chance say once in 3 years during that period.

/Special arrangements.....

6. (Cont.)

Special arrangements should be made to ensure warning of the approach of a typhoon by obtaining weather reports from the area 300 to 500 miles to the south-west, south and south-east of Miyako Jima.

7. PHASED DISCHARGE.

Based on the estimated development of the port and having due regard to the build-up of a balanced constructional force and priority of work, we estimate that, assuming work started on 1st October, 1945, personnel and tonnages should be landed from convoys, suitably phased, as follows :-

		Personnel		Stores.	Vehicles.
		from U.K.	from Canada.	(Tons).	
D Month	1 Oct.	5,500	-	8,000	200
D + 1	1 Nov.	14,238	-	50,628	1,447
D + 2	1 Dec.	12,032	7,000	58,675	1,730
D + 3	1 Jan.	9,580	-	57,820	740
D + 4	1 Feb.	3,900	5,500	56,425	585
D + 5	1 Mar.	100	9,000	54,100	350
D + 6	1 Apr.	-	7,000	48,560	270
D + 7	1 May.	-	1,500	29,000	-
	TOTAL.	45,350	30,000	363,208	5,322

8. P.O.L.

Aviation spirit will be brought ashore by ship to shore pipeline and/or small tanker and delivered at airfields by means of pipeline or bulk petrol lorries.

POL requirements based on 45 days reserves are as follows :-

Aviation Spirit.	Bulk Storage at base	45,000 tons
	Bulk storage at airfields	5,500 tons (maximum).
	Daily offtake.	1,000 tons.
M.T. Spirit.	Bulk storage.	7,000 tons.
	Daily offtake.	160 tons.

ANNEX III.

ARMY PERSONNEL REQUIRED.

Commitment during Construction and Build-up Period.

R.E.	Road and POL Construction.		1,700
T.N.	Port Construction, Operating and Maintenance.		3,812
S & T.	Transport	840	
	Supplies.	500	
	POL.	360	
	Amphibians.	300	2,000
REME.	Vehicle Assembly.	100	
	" Repair.	200	300
Signals.	Air Formation Signals.	500	500
Pioneers.	For work with RE, Tn, S & T REME.		4,130
Miscellaneous.	HQ. Staffs, Provost, AFS, EFI, Postal, Medical, etc.		400
	Total Army Personnel.		12,842

Permanent Maintenance Commitment.

RE.	Works Services including maintenance of roads and bulk petrol installations.		200
TN.	Port Operating and Maintenance.		1,614
S & T.	Transport	840	
	Supplies.	500	
	POL.	360	
	Amphibians.	300	2,000
REME.	Vehicle Assembly.	50	
	" Repair.	200	250
Signals.	Air Formation Signals.		500
Pioneers.	For employment with RE, Tn, RASC, REME.		2,260
Miscellaneous.	HQ. Staffs, Provost, AFS, EFI, Postal, Medical, etc.		400
	Total Army Personnel.		7,224

TOP SECRET.

C.S.A.(45) 98 (O)
11th June, 1945.

PRINCIPAL ADMINISTRATIVE OFFICERS COMMITTEE.

BRITISH PARTICIPATION IN V.L.R. BOMBING OF JAPAN.
REPORT TO THE CHIEFS OF STAFF.
(Previous reference:- C.O.S.(45) 143rd Mtg.Item 19).

We have examined, in conjunction with Air Marshal Sir Hugh Lloyd, the shipping and other logistical requirements inherent in the proposal of the U.S. Chiefs of Staff for deployment of "TIGER" Force and have suggested the composition and the size of the British constructional force which could be made available. Owing to lack of adequate information the views expressed in this paper are provisional only.

The Project.

2. The U.S. Chiefs of Staff propose ø a British force of 10 squadrons totalling some 220 aircraft. Some 15,500 air force personnel other than constructional personnel will be involved in this force.

Personnel required, including those for provision of complete logistic support

3. We have calculated the requirement for complete logistic support of the force in order that we may have a basis for comparison when computing services to be offered to the Americans in return for services rendered by them. The total force required would be :-

R.A.F.

Operational	15,500
Constructional.....	7,500

Army.

Constructional and Administrative.....	12,390
	35,390

Logistic support provided by the Americans.

4. We anticipate, however, that in the interests of economy of effort the Americans will provide the following Services :-

(a) Provision of all transportation services in the port, including lighterage and lighterage maintenance.

(b) Provision of P.O.L. and of pipeline services.

(c) Provision of all transport services between port and base depots.

(d) Provision of rations and canteen stores and holding in U.S. Base Depots. (It is proposed, however, to supply tea and cigarettes from British sources).

(e) Provision of all airfield construction material.

ø J.S.M. 857.

/British Contribution.

British Contribution for Administrative and Constructional Services.

5. We are informed by the Force Commander designate that the Americans are likely to require assistance from us in the form of the provision of 15,000 constructional personnel and that they themselves will provide the bulk of other administrative requirements.

We think it likely that we can provide 14,950 constructional personnel, including a proportion of pioneers, and, in addition, we could make available 1,420 other administrative personnel, making a total of 16,370. The units in question are shown in detail at Appendix "A".

We have excluded the Canadian Airfield Construction Wing (2,500 men) since we are in doubt as to whether this will be provided in time.

Implications of providing the proposed Force.

Personnel.

6. R.A.F. personnel can be provided without seriously affecting approved operations, although it would aggravate A.C.S.E.A's shortage of certain skilled personnel.

As stated in para. 5 above, we doubt whether the 2,500 constructional personnel from Canada will be available in time and, in the opinion of the Force Commander designate, it would be most unwise to count on this contingent.

7. The provision of Army Units, especially Engineer and Signals Units, will be made in direct competition with the provision of units for MINERVA. This should not, however, jeopardise the success of ZIPPER/MAILFIST.

All Army units, totalling 8,870 will have to be withdrawn from Europe. At least three months is required from the date at which the decision to withdraw is taken to the date of sailing from the U.K. This time is required for :-

(a) The complicated process of sorting units in 21 Army Group and C.M.F. at a time when appreciable withdrawals from there are already in progress to provide replacements for releases and homecoming personnel from other theatres.

(b) Moving units back to the U.K: and

(c) Leave for all personnel and mobilisation in the U.K.

8. The Admiralty have a requirement for Army constructional engineers for MONABS and works in the forward areas which, up to date, the Army has been unable to meet. The engineer and constructional requirements for the war against Japan have recently been examined and the examination shows that there is an overall deficiency of engineers to meet the anticipated operational requirements of all three Services. Unless some solution can be found, it is probable that engineer resources will have to be made a matter of priorities between inter-Services projects.

On present information, therefore, the provision of construction engineers for the V.L.R. force is in direct competition with the Naval requirements and with S.A.C.S.E.A's requirements after ZIPPER/MAILFIST. This, however, can only be confirmed when the examination of Engineer commitments and availability of construction personnel has been completed.

/Shipping.....

Shipping.

9. Since personnel shipping will be available for only 30,300 (including 2,800 for SHIELD) in the second six months of 1945, some 4,000 personnel could not be moved until the beginning of 1946, although this should not affect the dates by which Squadrons become operational.

From provisional estimates of build-up and maintenance requirements the dry cargo shipping required should be within the estimate allowed at the recent review in Washington.

Material and Stores.

10. In general, we consider that the necessary stores can be provided without appreciable effect on other theatres. Prefabricated airfield surfacing material, however, and certain items of electrical plant are in short supply and could not be provided without prejudicing S.E.A.C. operations, after MAILFIST.

Conclusions.

11. We conclude that :-

(a) To provide for a self-contained force of 10 Squadrons, the overall cost would be 35,930 personnel.

(b) Assuming the Americans will extend for our use certain services which they will also be providing for themselves, we consider that, after including adequate compensation, the British force would be as detailed at Appendix "A" and would total 34,370 personnel, of whom 2,500 are Canadian construction personnel not yet agreed by the Canadian Government and who cannot therefore be counted on as an asset.

On present information, the provision of construction engineers for the V.L.R. Force is in direct competition with Naval requirements and with S.A.C.S.E.A's requirements after ZIPPER/MAILFIST. The extent of this competition can only be confirmed when the examination referred to in paragraph 8 has been completed.

(c) Personnel shipping availability is such that some 4,000 of the personnel of the force shown at Appendix "A" could not be embarked in British shipping until the beginning of 1946, although this should not affect the dates by which Squadrons can become operational.

(d) Provisional estimates indicate that cargo shipping will be adequate.

Recommendation.

12. We recommend :-

(a) That the Chiefs of Staff should authorise the Force Commander designate to base his discussions with the Americans on the assumption that the maximum constructional and administrative force at his disposal will be as detailed at Appendix "A".

(b).....

Recommendation (Cont.)

(b) That an approach should be made to the Canadian Government with a view to obtaining their agreement to provide one Canadian airfield construction wing of 2,500 for embarkation at Vancouver on 30th September.

(Sgd.). T.S. RIDDEL WEBSTER.
A.F.E. PALLISTER
C.L. COURTNEY.
S.F. STEWART.

Offices of the Cabinet and
Minister of Defence S.W.1.

11th June, 1945.

APPENDIX "A".

Proposed force if Americans provide certain logistic support.

		TOTAL	GRAND TOTAL.
R.A.F. Personnel.			
Operational force.			15,500
Constructional and Administrative personnel.			
R.A.F.			
Airfield construction personnel.		7,500 7,500	
Army.			
R.E.			
Road Construction and work with R.A.F. Airfield Construction Wings.		3,250.	
S & T.			
Supplies.		200ø	
R.E.M.E.			
Vehicle Assembly	120		
Vehicle Repair.	200		
	320	320ø	
R. Sigs.			
Air Formation Signals.		500ø	
Pioneers.			
4 Pioneer Coys.		1,300	
Miscellaneous.			
Headquarters, Staff.			
Provision A.F.S. E.F.I.			
Postal Medical etc.,		400ø	
		5,970 5,970	
Personnel in Compensation.			
6 Pioneer Coys.		1,800	
3 Port Operating Coys.		1,100	
		2,900 2,900	
		16,370	16,370
Airfield Construction Wing (Cdn).			2,500
		GRAND TOTAL	34,370

Note:- ø These total 1420 vide para. 5 of report.

TIGER FORCE COMMANDER'S DESPATCH

APPENDIX 'D'

ACAS(P)244/28/6058 — 16th June, 1945.

TOP SECRET

Sir,

OPERATION 'TIGER'.

I am directed to confirm that you are required to proceed to Washington with a planning team to conduct further staff conversations with the United States Joint Staffs. These conversations will have as their object the establishment of an agreed basis for the preparation and despatch of 'Tiger' Force.

2. I am to enclose a copy of a directive which embodies the authority and instructions of the Chiefs of Staff and some technical planning figures which may be of assistance to you.

I am, Sir,

Your obedient Servant.

W.E. DICKSON.

Air Vice-Marshal,
Assistant Chief of the Air Staff (POLICY)

Air Marshal Sir Hugh P. Lloyd, KBE. CB. MC. DFC.
HQ. Tiger Force,
c/o H.Q. Transport Command,
Bushy Park,
Teddington,
Middx.

TOP SECRET.

DIRECTIVE TO FORCE COMMANDER TIGER FORCE FOR CONVERSATIONS IN WASHINGTON.

Given below is a general directive on which your conversations in Washington should be based dealing with :-

(a) the approved initial force.

(b) Possible follow-up force.

APPROVED FORCE.

Front Line Strength of Force.

2. The front-line strength of the force is :-

8 Heavy Bomber Squadrons of 20 U.E.

1 P.F.F. Mosquito Squadron of 30 U.E.

1 P.R./Met. Squadron (Mosquito) of 20 U.E.

3. You should not refer officially to details of Dominion participation as full approval of Dominion Governments has not yet been received.

Constructional Personnel.

4. At the 153rd Meeting of the Chiefs of Staff Committee on the 15th June it was agreed that you :-

"should base your discussions with the Americans on the assumption that the maximum constructional and administrative force at your disposal would be as detailed in Appendix A to the report by the Principal Administrative Officers (At Annex I) but that you should, if possible, obtain American agreement to accepting a smaller number of constructional personnel and should avoid any commitment as to the exact skilled number of engineer personnel to be provided".

Shipping.

5. The total squadron and constructional personnel shown in Annex I is likely to be 34,370. Personnel shipping will be available for only 30,300 (incl. SHIELD) in the second six months of 1945. Some 4,070 personnel, therefore, cannot be moved by sea until the beginning of 1946.

6. The tentative basis for planning the phasing of deployment is as follows :-

Personnel Shipments.	Embarkation.	Arrival in Okinawa.
3000 Personnel (SHIELD)	U.K. in June	-
3000 "	U.K.	Sept
3000 "	U.K.	Oct
2500 "	Canada	Oct
8500 "	U.K.	Nov
8500 "	U.K.	Dec
2000 "	Canada	Dec

/Requirement for Staging Posts.....

Requirement for Staging Posts.

7. Up to 4 Transport Squadrons will be used directly in support of your force, though these will not be based in the Ryukyus. To enable this support to be effective, facilities for two staging posts will be required, one in the Philippines and the other in Okinawa.

8. You should endeavour to obtain the Americans' approval of these staging posts.

Logistic Support by Americans.

9. The above figures for squadron and constructional personnel are based on the assumption that the Americans will accept the following responsibilities to which you should endeavour to obtain their firm agreement.

(a) Provision of all transportation services in the port, including lighterage and lighterage maintenance.

(b) Provision of P.O.L. and pipe-line services.

(c) Provision of all transport services between port and base depots.

(d) Provision of rations and canteen stores and holding in U.S. base depots. (It is proposed however, to supply tea and cigarettes from British sources).

(e) Provision of all airfield construction material.

POSSIBLE FOLLOW-UP FORCE.

Equipment.

10. Your discussions on our requirements for equipment should be on broad outline only. It should be made clear to the U.S. Authorities that details of these requirements will be tabled through the normal M.A.P./Air Ministry channels.

Remainder of Force.

11. Planning is continuing for a further force of 12 Heavy bomber squadrons early in 1946. This planning is purely tentative and is based on the assumption that the constructional personnel already in Okinawa will be available for whatever work is required on the tactical airfields thrown up by the Americans.

A.S.R. Squadrons.

12. You should sound the Americans on their views regarding the provision by us of an Air Sea Rescue Squadron with the second part of the force.

Bomber Production Programme.

13. As a basis for your discussions, attached at Annex II is a probable production programme for Lancaster and Lincolns in 1946.

15th June, 1945.

TOP SECRET

ANNEX II

ESTIMATED DEPLOYMENT OF 'TIGER' FORCE HEAVY BOMBER SQUADRONS IN THE PACIFIC.

At the present time M.A.P. are unable to give a firm production forecast for the availability of the Lincoln II prepared to the V.L.R. standard. The rate of deployment upon which planning is proceeding is set out below and the Lincoln II requirements to meet this plan, which show a considerable discount on the current M.A.P. forecast, are thought to represent the rate at which the M.A.P. will eventually be able to prepare the aircraft.

2. The squadron deployment in the following table shows the month in which squadrons will be operational in the theatre.

		1945.	1946.											
	U.E.	Dec.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Lancaster I/III/VII	20	4	8	8	8	8	8	8	8	7	6	5	4	3
Lincoln II	20	-	-	4	8	12	12	12	12	13	14	15	16	17
TOTAL.		4	8	12	16	20	20	20	20	20	20	20	20	20

3. There will be sufficient aircraft and crews to back the above deployment at the rate of eight sorties per U.E. aircraft per month. This number of Squadrons would then represent the ultimate target which the output of aircraft and crews could maintain at the 'Tiger' rates of effort.

4. Sufficient spare engines will be available for the Lancaster deployment shown above on the assumption that no fourth line maintenance will be provided. Spare engine requirements for the Lincoln II deployment are being re-calculated on the same assumption. If the Americans are unwilling to allocate sufficient spare engines to meet these requirements then some reduction in the Lincoln II force may be necessary. These requirements will be tabled to the U.S. Authorities through the normal M.A.P./Air Ministry channels and it is recommended that this question should not be raised by the Force Commander during his forthcoming discussions in Washington.

15.6.1945.

ANNEX I

TOP SECRET.

PROPOSED FORCE IF AMERICANS PROVIDE CERTAIN LOGISTIC SUPPORT.

			Total	Grand Total
R.A.F. Personnel.				
Operational force.				15,500
Constructional and Administrative Personnel.				
R.A.F.				
Airfield Construction personnel.			7,500	
Army.				
R.E.				
Road Construction and work with R.A.F. Airfield Construction Wings.		3,250+		
S & T.				
Supplies.		200/		
R.E.M.E.				
Vehicle Assembly	120			
Vehicle Repair	200			
	320	320/		
R. Sigs.				
Air Formation Signals		500/		
Pioneers.				
4 Pioneer Coys.		1,300		
Miscellaneous.				
Headquarters Staff. Provision A.F.S. E.F.I. Postal, Medical, etc.		400/		
		5,970	5,970	
Personnel in Compensation.				
6 Pioneer Coys.		1,800		
3 Port Operating Coys.		1,100		
		2,900	2,900	
			16,370	16,370
Airfield Construction Wing (Canadian)				2,500
			GRAND TOTAL	34,370

Notes. (a) + It must be noted that if Engineers are not available, Pioneers to the same number may have to be substituted.

(b) / These total 1,420 vide para 5 of the report.

(c) All Army personnel will be made available for embarkation by 15th September, at latest.

TIGER FORCE COMMANDER'S DESPATCH

APPENDIX 'E'

C.O.S.(45) 516 (0)

6TH AUGUST, 1945.

CHIEFS OF STAFF COMMITTEE.

BRITISH PARTICIPATION IN V.L.R. BOMBING OF JAPAN.

Report by TIGER Force Commander,
Sir Hugh PughLloyd, K.B.E., C.B., M.C., D.F.C.

During my recent visit to the United States and the Pacific Ocean area, the following arrangements were agreed with the competent U.S. authorities concerned viz :-

Commander-in-Chief PACIFIC OCEAN Area (POA) (Admiral NIMITZ)

Commanding General Army Air Forces POA, now superseded by U.S.A. Strategic Air Forces (General SPAATZ)

Commander Tenth U.S. Army (General STILWELL)

Island Commander, OKINAWA (Major-General WALLACE)

Commander-in-Chief (AFPAC) (General MACARTHUR)

Project.

2. The first half of the British V.L.R. Force - TIGER Force, consisting of 10 squadrons shall be established in the Ryukyus (Okinawa or Kume) with target dates as follows :-

Beginning 1 December 1945	-	5 squadrons
Beginning 1 January 1946	-	5 squadrons

Shipping

3. Personnel shipping for the deployment of the Force has been allocated up to the end of 1945. Dependent upon the numbers which may be flown in to the theatre, further shipping will be required for some 5,000 personnel early in 1946.

Cargo vessel sailings allocated up to mid 1946 as approved by the Combined Chiefs of Staff should suffice to cover requirements.

The arrival of unit equipment and vehicles in cargo ships should be coincident with the arrival of owner units in the personnel ships. Sailings should be regulated accordingly.

/Acceptance of Force.....

Acceptance of Force in the RYUKYUS

4. The first two convoys (SHIELD and VACUUM) will be accepted as constituted, and will be unloaded and temporarily administered by the Americans.

The third convoy - FORTIFY - due to sail on 1 September 1945 and subsequent convoys will be accepted, provided that they can be so constituted as to meet United States requirements for constructional purposes and for the logistic support of the Force as it is built up.

No special priority is being given to the discharge of British ships, which will be integrated into the United States regulating system of leaving the Panama Canal and called forward by the United States Naval authorities. It is expected, though not assured, that personnel and equipment will be discharged fairly promptly.

Division of Administrative Responsibility

5. The British contribution in constructional personnel will be pooled, and used in accordance with the overall plan for the theatre.

Owing to the fact that the maximum number of engineers is being phased in at the earliest possible moment, the British Force will require a large measure of administrative support during the first few months. The necessary support will be provided by the theatre during this interim period.

Subsequently the British Force will be self-supporting except for the following which will be provided by the theatre :-

(a) Responsibility for discharging ships, including lighterage; the British will assist by providing port operating troops for unloading lighters on to beaches and the transport from beaches to dumps/depots. The British will also provide a port construction element.

(b) Provision and supply of POL.

(c) Provision and supply of rations and canteen stores.

(d) Provision and supply of airfield construction material.

Proposed Composition of Force.

6. An Order of Battle for TIGER Force was worked out and was agreed by the Americans as being suitable to implement the above arrangements. This totalled 34,200 men (including 2,500 Canadian Engineers) and is within the figure authorised in C.S.A. (45) 98 (O)* . Details are shown at Annex.

Any material modification of this Order of Battle will entail fresh agreement by the United States Theatre authorities.

Staging Points

7. The United States authorities will provide such staging facilities as are required at Manila and Okinawa for the flying-in of combat aircraft and for the operation of transport squadrons.

* Approved at C.O.S.(45) 153rd Meeting.

/Present Position.....

Present Position

8. Subsequent to the above agreement, three factors have arisen which have a material bearing on the situation. These are :-

(a) General SPAATZ intimated that he would like two TALLBOY squadrons to arrive in OKINAWA by 15 October 1945. This request has now been confirmed, but the area from which these two squadrons will operate is still under investigation.

(b) The contribution of 2,500 Canadian Engineers has failed to materialise.

(c) The contribution of 3,200 Royal Engineers may have to be diluted by the inclusion of 50% Pioneers.

I deal with these in detail below.

Introduction of TALLBOY Squadrons

9. If these squadrons are to arrive in time, it is necessary that arrangements be made for their despatch almost immediately. Arrangements have therefore been made for the despatch of the squadron personnel to QUEBEC, and (with Canadian agreement) for their transport overland to the West Coast. They will be carried from there to OKINAWA in the EMPRESS OF AUSTRALIA, which now becomes available owing to the non-availability of the Canadian Engineers. The balance of the capacity of this ship will be filled with R.A.F. airfield constructional personnel, also to be routed via Canada.

The Americans have been informed by cable of these proposed arrangements, but their reply has not yet been received.

Non-availability of Canadian Engineers

10. During my discussions with the Americans I was considerably hampered by the fact that the extent of the Canadian contribution was uncertain. In my view the Americans would accept some reduction in this respect, provided they felt that we had done our utmost to make up, in part, the deficiency. I do not consider that they will agree to the entire omission of the Canadian Engineer element unless we can provide some contribution in its place. The Americans will, of course, have to be informed that the Canadians are not available, and when this is done it will be politic to put to them our proposals for meeting the deficiency. In my view the minimum compensation which would stand any chance of acceptance by them would be the provision of 1,500 skilled or semi-skilled constructional personnel (including equipment). I have discussed this matter with the War Office and Air Ministry, and my proposals are as follows :-

(a) The Air Ministry have a total of a further 800 airfield engineers, though a number of these are already engaged on high priority work. The maximum number possible (and in any case, not less than 500) should be allotted to TIGER Force.

(b) The balance, to make a total of 1,500, should be made up of Army Pioneers.

(Note: This paragraph may have to be revised in the light of Air Ministry comments).

/Provision of Royal Engineers.....

Provision of Royal Engineers

11. As instructed by the Chiefs of Staff, I based my discussions with the Americans on the assumption that the maximum constructional force available, would be that available in Appendix "A" to C.S.A. (45) 98 (O). When the matter reached the stage of discussion with the Commanders on the spot, it was obvious that it would be necessary to arrive at an agreed figure. I therefore negotiated with the Americans (not without difficulty) an agreed figure of 3,200 Royal Engineers, which was within the allotment of 3,250 included in C.S.A. (45) 98 (O).

12. It is only since my return to LONDON that I have been informed that the Army contribution of Royal Engineers may be diluted by the inclusion of up to 50% of Pioneers. If this is the case, the effect upon TIGER Force will be twofold :-

(a) The Engineering efficiency of the Force will be reduced, with the possibility of consequential delay in construction projects, and hence in the date of commencement of operations.

(b) The unfortunate effect upon the Americans which will inevitably be produced.

I am aware that the stringency of the manpower situation is such that a delay, such as that referred to in (a) above, might have to be accepted, however unwelcome, but I must represent that the effect upon the Americans of any reduction in our Engineer contribution may have consequences of such importance as to jeopardise the whole project. It was quickly apparent to me that our contribution of constructional personnel was the overriding factor which induced the local Commanders to accept the British Force. It was impossible to make them fully aware of the reasons which make it difficult for us to produce some 3,000 Royal Engineers (a figure which they obviously regarded as relatively trifling) for an operation which has been accorded the highest priority. If this force is now cut, the best that we could expect, would be suspicion of our wholeheartedness in the project. In the worst case, they would require a re-examination of the plan, with delays which might well result in our ultimate participation only becoming effective too late to be of value.

Recommendations

13. I therefore recommend;

(a) That the following should be provided in lieu of 2,500 Canadian Construction Engineers

(i) The maximum number (and in any case not less than 500) of additional RAF Constructional Engineers.

(ii) Sufficient Army Pioneers to provide, with (i) above, 1,500 men.

(b) That the full complement of 3,200 Royal Engineers be provided without dilution.

(c) That this report be approved as a basis for the executive planning of TIGER Force.

Offices of the Cabinet and
Minister of Defence, S.W.1.
6TH AUGUST, 1945.

APPENDIX 'F'

TOP SECRET

ALLOCATION OF SHIPPING, AND PROGRAMME SHOWING DEPLOYMENT AND BUILD-UP OF THE INITIAL FORCE OF 10 SQUADRONS IN 1945.

PROGRAMME OF SHIPPING AS ALLOCATED.

(a)

Date of Embarkation.	R.A.F. Constructional Personnel	R.A.F. Squadron & Admin. Personnel	Army	Date of Arrival
15 July 1945	2,800 (SHIELD)	-	-	15 Sept. 1945
1 Aug. 1945	2,500	500	-	End September
1 Sep. 1945	2,500	500	-	End October
30 Sep. 1945	2,500 Canadians (if available)	-	-	End October
1 Oct. 1945	-	3,500 (Approx.3 Sqdns)	5,000	End November
1 Nov. 1945	-	6,000 (Approx.4 Sqdns)	2,500	End December
30 Nov. 1945	-	2,000 (Canadian Sqdns if available)	-	End December
	10,300	12,500	7,500	

TOTAL : 30,300

(b) Detail showing how shipping was planned to be used, rate of build up and broad outline of deployment. When the actual ships had been earmarked it was hoped that large ships would be found, giving berths for an additional 2,000 personnel.

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ANNEX

PROPOSED COMPOSITION OF TIGER FORCE

Operational Force		
including squadron and ground personnel, administrative personnel for squadrons (including hospitalization and labour)		15,500
Construction Personnel		
Airfield Construction Engineers.	7,500 *	
Airfield Construction Engineers (Canadian).	2,500 *	
Royal Engineers	3,200	
Port Construction & Repair	300	
Pioneers	1,350	
(* can also be used for general construction if required)		14,850
Port Operating & Maintenance		
Operating	400	
Maintenance	300	
Headquarters	50	
Pioneers	600	1,350
Transport		800 +
Signals		500
General Administrative Personnel	(including 300 Pioneers)	1,200
		34,200

\+ Note It has subsequently been agreed that 50% of this will be provided by R.A.F.

CONVOY	DATE OF + EMBARKATION OF PERSONNEL.	UNITS.	R.A.F.		Army	Date of arrival	Remarks
			Constrl. Personnel	Sqdn & Admin. Personnel			
SHIELD	7 JULY	1 Airfield Construction Wing, Base H.Qs. and ancillary units	2503	645	-	21 AUG	Eventually diverted to HONG KONG
VACUUM	30 AUG	1 Airfield Construction Wing, Staging Posts and advance parties of maintenance and ancillary units.	2196	728	120	15 OCT	Store ship only sailed and diverted to SINGAPORE
FORTIFY	30 SEPT.	Army Engineers and port operating troops, maintenance, staging post and ancillary echelons.	362	1301	1484	15 NOV.	
STATIC	20 AUG.	2 Heavy Bomber Squadrons, 1 Airfield Construction Wing, echelons of ancillary units.	2196	324	-	15 OCT	Shipping planned originally in Canada for Canadian Airfield Construction Wing. On cancellation of Canadian Wing linked with additional shipping across the Atlantic and used formerly for early deployment of the two TALLBOY SQUADRONS.
HURST	10 OCT.	2 Heavy Bomber Squadrons, 1 Mosquito Squadron, Army Engineers, maintenance backing, echelons of ancillary units.	-	5258	4134	25 NOV.	

/Cont.....

CONVOY	DATE OF + EMBARKATION OF PERSONNEL.	UNITS	R.A.F.		Army	Date of arrival	Remarks
			Constrl. Personnel	Sqdn & Admin Personnel			
PENCE	10 NOV.	3 Heavy Bomber Squadrons, 2 R.A.F. Reg. Squadrons, Airfield Construction Army Engineers and administrative backing, maintenance backing, echelons of ancillary units.	800	5027	3230	25 DEC	800 R.A.F. airfield engineers in place of Canadian Construction Wing cancelled from STATIC.
Not Named.	END NOV.	2 Heavy Bomber (Canadian Squadrons)	-	2000	-	END DEC	Ex Canada.
			8057	15283	8968		

+ It was necessary for freight ships to sail one month earlier. TOTAL: 32,308