



FIG. 1.—LANDING CRAFT CARRIED ON TANK TRANSPORTERS IN DUTCH TOWN EN ROUTE TO THE RHINE

# PLANNING AMPHIBIOUS OPERATIONS

by

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## PART IV

### INTO GERMANY

The German offensive in the Ardennes having been repulsed, and the threat to Antwerp and the Scheldt averted, the strength of the British, Canadian, and U.S. Armies was sufficiently built up by the Spring of 1945 for them to be able to concentrate on their next and last major offensive, the crossing of the Rhine and the forward drive into Germany itself.

#### **Preparation for the Rhine Crossing**

With only one exception, all the Rhine bridges were down, and the river crossing entailed the extensive use of amphibious vehicles and many minor landing craft. LCM and LCV(P) were selected as being the most suitable that could be made available. These were brought over from U.K. in large numbers to Ostend and Antwerp, many being lifted by LSD. The LSD could not enter Ostend and were considered to be too valuable to be risked in the Scheldt approaches. They therefore "flooded down" a mile or so off Ostend and discharged the craft, which entered harbour under their own power. During this part of the operation some casualties occurred owing to engines failing to start or breaking down and to the weather, resulting in some craft drifting on to the heavily obstructed and mined beaches to the eastward.

The journey was completed by road, the craft being carried on special cradles fitted to tank transporters. Considering the distances involved, the numbers of low bridges, and other obstacles that had to be by-passed, and the fact that an LCM weighs 26 tons, and measures 77 ft.  $\times$  14 ft.  $\times$  20 ft. high when mounted on its transporter, this was no easy task and called for close co-operation by the Navy and the Army.

#### **Logistic Support for Landing Craft**

Local Naval responsibility for the operation was in the hands of the Naval Commander, Force *U*, a force specially constituted for the job. Not anticipating offers of any novel form of logistic support from the Admiralty, some thought was given to employing LCRU and MLRU. The latter could have functioned satisfactorily, although they would have been insufficient for the job; the former, without special training and adaptation, would have found the conditions of steep, muddy river banks so vastly different from the beaches for which they were trained and equipped that their success would indeed have been doubtful. Much to the surprise and relief of ANCXF the Admiralty, with unprecedented expedition, dispatched a modified Mobile Landing Craft Advanced Base unit (MOLCAB) with Mobile Base Maintenance Unit (MBMU) attached to provide general administrative and maintenance facilities for crews and craft respectively. The MOLCAB was a newly formed type of party for the Far East and this operation provided an opportunity to test it out under service conditions. A special party equipped with four lorry mounted cranes for handling the craft on and



FIG. 2.—LANDING CRAFT BEING LAUNCHED INTO THE RHINE DOWN SPECIALLY PREPARED SLIPWAYS

off the transporters and to provide assistance subsequently whenever cramage was required was also provided. These parties were all attached to Force *U* and in due course arrived with the craft on the banks of the Rhine where several accommodation and maintenance camps were set up.

Fuel was provided from Army stocks, although distribution to the craft was a Naval responsibility.

Until temporary bridges had been built across the river, the Army was supplied by the Ferry service of landing craft.

### **The Rhine Flotilla**

Plans were made and only cancelled at a late stage for the formation of a Coastal Force Rhine flotilla to patrol the rivers and prevent illegal movement between Holland and Germany. The maintenance and fuelling of these Coastal Force craft in waterways far from the sea presented an unusual problem, and CFMU No. 2 was earmarked for the work. The presence of temporary bridges with very low headroom complicated the problem and would have meant organising the logistic support in three sections, each isolated from the remainder except by road. Lorry borne supplies of fuel would have been required; it was intended to use LBO and LBW for local distribution and storage.

## **THE OCCUPATION AND DISARMAMENT OF GERMANY**

Since the autumn of 1944, a post-hostilities section of ANCXF staff, (ANCXF (PH)), at its London Headquarters, had been planning the occupation, control and disarmament of Germany. Under ANCXF (PH) there were two Flag Officers, one designated for Western Germany (FOWG), to have his headquarters near Wilhelmshaven, and one for Schleswig-Holstein (FOSH), to have his Headquarters at Kiel, these being the two principal German Naval bases. The technical staff of ANCXF (PH) comprised an Engineer Rear-Admiral, the Command Engineer Officer, (CEO), a Captain (E) and assistants, together with Electrical and Constructor Officers. Each Flag Officer had his own technical staff under a Captain (E).

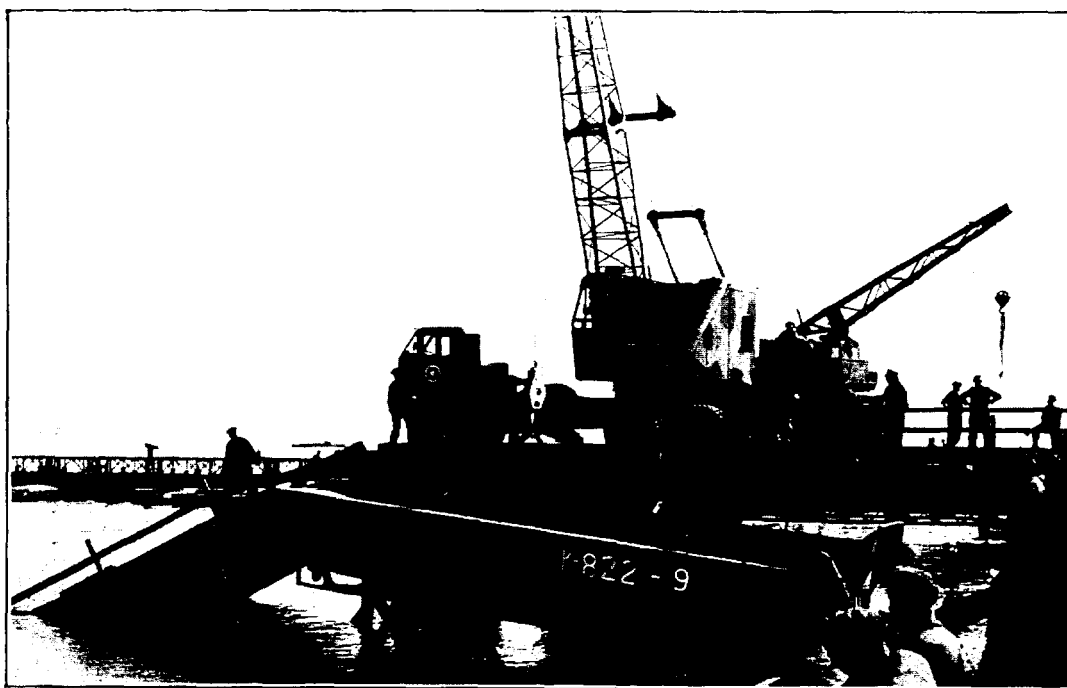


FIG. 3.—LANDING CRAFT BEING LAUNCHED INTO THE RHINE BY CRANE FROM SPECIALLY BUILT PIERS

NOIC's parties were designated for Emden, Heligoland, Sylt, Wilhelmshaven, Cuxhaven, Hamburg, Kiel, Eckernförde, Flensburg and Lubeck. Their control and disarmament staffs each contained a "skeleton" party of technical officers and ratings, "skeleton" because the Admiralty were unable to provide the full numbers asked for. The first six were subordinate to FOWG and the remainder to FOSH.

Two further Flag Officers, with small staffs, were designated for Denmark and Norway. Each had small NOIC parties for the principal ports, in which Nationals of these countries featured largely.

The Norwegian parties were prepared and embarked under orders of C. in C. Rosyth. C's. in C. Nore, Portsmouth, and Plymouth all assisted in the preparation of the German and Danish parties, which came under the orders of ANCXF.

ANCXF (Main)—the original operational staff—moved from Paris to Minden, Westphalia, in June, 1945, and was joined by the PH staff from U.K. This site was chosen as being the most suitable from which contact could be maintained both with 21 Army Group, later to become the British Army of the Rhine (BAOR), and 2nd Tactical Air Force, later to become British Air Force of Occupation (BAFO), and with the Naval parties in the ports of N.W. Germany. BAOR Headquarters were at Bad Oeynhausen and BAFO were also near by.

Shortly after the war had moved into Germany, ANCXF relinquished his control in France, Belgium and Holland, remaining Naval responsibilities being turned over to the Home Commands and Admiralty. As long as 21 Army Group continued to rely on lines of communication through Antwerp, however, ANCXF's interests there did not disappear entirely.

ANCXF was responsible for the operation of all the ports and for all shipping movements around the coast of Germany (less the Russian zone) and of Denmark. He was also responsible for the disbandment of the large number of German Naval personnel and the disposal of their equipment, ships, etc. Later he also



FIG. 4.—LANDING SHIP, DOCK (L.S.D.), WITH MINOR LANDING CRAFT EMBARKED

assumed responsibility for Norway, where many personnel and much equipment also remained to be disposed of.

Although it lay within the British zone, the Weser estuary, including the ports of Bremen and Bremerhaven, was allotted to the U.S. Army and Navy to enable the U.S. Army in the U.S. zone to be supplied. These ports were operated by the U.S. authorities, who until the dissolution of SHAEF were responsible on the Naval side to ANCXF.

#### **Disposition of the operational Repair Parties**

To provide maintenance and repair facilities for Allied ships operating in German and Danish waters, to organise repair facilities to assist in this work and to look after German ships employed in our interests, the following plans were implemented :—

- (i) N.P. 1526 (large port repair party) was moved to Cuxhaven to establish the principal minesweeping and C.F. base.
- (ii) No. 3 MLRU was sent to Hamburg to handle tugs and minesweepers employed in opening up and operating the port, which was to be the British Army's principal supply base.
- (iii) No. 4 MLRU and later N.P. 1529 (a small port repair party) were sent to Kiel, which was also faced with a major minesweeping task.
- (iv) CFMU No. 1 was sent to Cuxhaven and CFMU No. 2 to Copenhagen and



FIG. 5.—ONE OF THE M.O.L.C.A.B. CAMPS NEAR THE RHINE

later to Flensburg, the two C.F. bases for the control of Heligoland Bight and the Baltic respectively.

In so far as their “operational” repair work permitted, these parties also assisted the disbandment staffs in their own areas.

### Cuxhaven

The move of N.P. 1526 was performed in two parts. The Le Havre and Dieppe sections were concentrated in Antwerp, some key personnel and all remaining party transport brought there from U.K., and the whole formed into a mobile advanced party which proceeded overland to Cuxhaven. The remaining M/S commitments in Le Havre were concluded by the M/S personnel ex-U.K. who had been added previously. The French took over in Dieppe. The Belgian ship repair staff was maintained by the provision of non-party personnel. The remainder of N.P. 1526 re-embarked in H.M.S. *Adventure*, which the Admiralty, faced with major personnel commitments in the Far East, reluctantly recommissioned on a reduced scale. ANCXF had to face up to the following factors. The opening up of Cuxhaven as a major M/S base was of vital importance to the high priority requirement of 21 Army Group to establish Hamburg as its main supply port and for re-deployment of large bodies of troops from Germany to Norway. Cuxhaven might well be seriously demolished before capture—in any case we had to ensure that repair facilities were available at the earliest possible date—and the arrival of the party in a repair ship ready to operate on arrival was the only possible way to do this. Heligoland, if it held out, would prevent entry into Cuxhaven by sea, but there was much minesweeping to be done to seaward and a repair ship, being mobile, could probably have maintained the sweepers from a temporary anchorage in the vicinity. On the understanding, previously given, that *Adventure* would be available and appreciating the necessity for a ship-borne party, all plans had been made accordingly, and time did not permit a change to an overland lift, by Army M.T. which in any case the Army were quite unable to provide, being short of their own requirements.



FIG. 6.—KIEL. "ADMIRAL SCHEER" CAPSIZED AS RESULT OF ALLIED AIR RAIDS. PREFABRICATED U-BOAT BOW SECTIONS IN FOREGROUND

It was appreciated, however, that a ship the size of *Adventure* could not enter until the initial clearance of the lengthy channel in had been completed ; an exceptionally strong advanced overland party was therefore organised, which could handle all emergency work in these early days before the main party could enter.

On arrival, they found the ex-German Naval base most adequately equipped and undamaged. In due course *Adventure* entered and the main party, with several hundred tons of stores and equipment were landed and joined the advanced party in the base. *Adventure* was then returned to U.K.

CFMU No. 1 moved by road to Cuxhaven. In time the C.F. commitments reduced sufficiently to enable the unit to be disbanded ; a nucleus was retained and added to the special C.F. party originally attached to N.P. 1526. This combined C.F. section of N.P. 1526 did excellent work looking after both MLs and HDMLs. The CFMU was not equipped to handle HDMLs and without the special party attached to N.P. 1526 it would have been impossible to maintain HDMLs in Cuxhaven.

### **Hamburg**

In Hamburg, although very severely damaged by Allied air raids, conditions were found to be such that No. 3 MLRU was not required for operational work, although it was a most helpful adjunct to the inadequate disbandment and control staff. The unit was, however, required by Admiralty for the Far East and was released.

### **Kiel**

Kiel was most heavily damaged and No. 4 MLRU who had moved forward from Goes when Force *T* was disbanded, established its Headquarters in an ex-German ship alongside in one of the several shipbuilding and repair yards and formed the nucleus of the local operational repair organisation. Surplus transport, equipment and personnel were returned to U.K.

N.P.1529, whose transfer from Terneuzen was unfortunately delayed by circumstances, finally reached Kiel too late to assist in the vital early hectic days. The party was drastically "weeded out," surplus men and equipment being released and the remainder distributed by FOSH, a large section going to Flensburg to organise local operational repair facilities and assist the disbandment and control staffs in several ports.

The release of N.P. 1529 from Terneuzen was made possible by the reduced scale of work remaining, which was handled by N.P. 1531 from Ostend. N.P. 1531, together with the whole of the Os end port organisation was transferred to the Home Authorities. The remaining party, N.P. 1710, in Calais and Boulogne, had already been severely thinned out to release men for the Far East and the reduced party was likewise transferred to the Home Authorities. N.P. 1528, in Holland, remained under F.O., Holland, who by now had ceased to be responsible to ANCXF.

### **Flensburg**

CFMU No. 2 embarked in *Tasajera*, an old LST, one of the three originally requested as repair ships for the beaches, sailed from U.K. to Copenhagen to look after the C.F. craft allocated to F.O., Denmark. It was the intention that FOSH's craft would receive day-to-day maintenance locally in Kiel, and go to Copenhagen for larger repairs. In the event, the two sets of C.F. craft were combined and based on Flensburg where CFMU No. 2 disembarked and established a combined C.F. base for the Baltic and Danish waters.

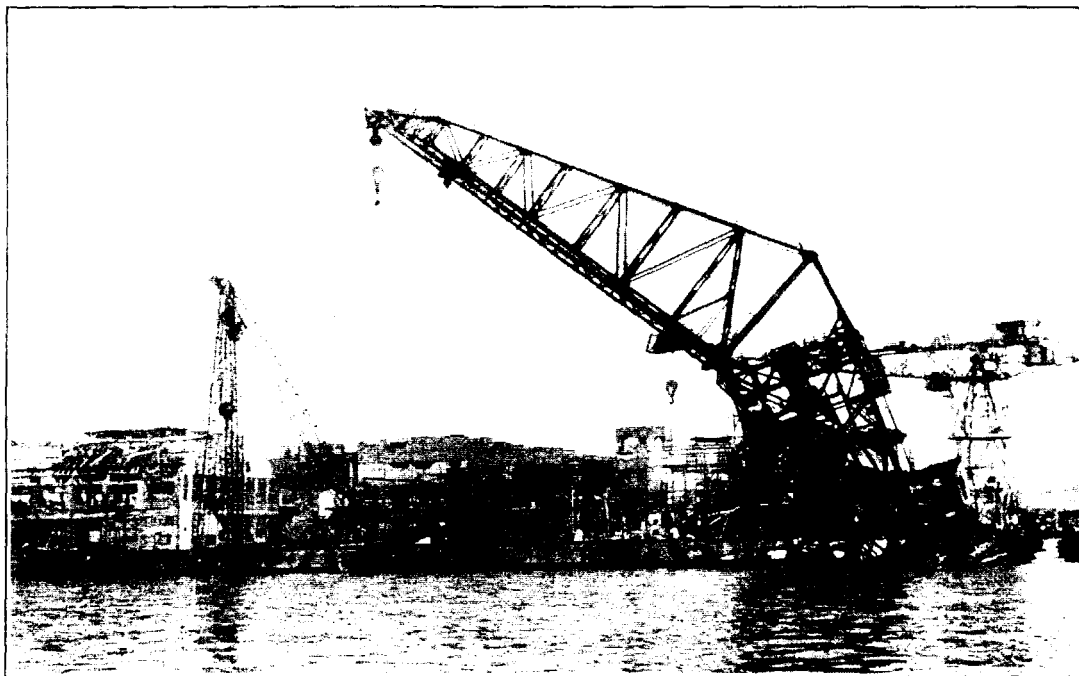


FIG. 7.—KIEL. DAMAGE TO DOCKYARD FACILITIES BY ALLIED AIR RAIDS

### **Ober-Kommando der Marine (OKM)**

The Naval clauses of the unconditional surrender terms had been signed at Rheims by ANCXF. The German "Admiralty" (OKM) had been bombed and chased out of Berlin, and had finally settled in a German Naval Training Establishment at Flensburg. British officers from ANCXF's staff took over control of OKM immediately and a skeleton staff of German officers was retained so that each Department could be dealt with effectively. Combined British-U.S. technical teams of officers dealt with their respective Departments in detail. Each team consisted of about 6 officers, under a team leader, alternate parties being led by R.N. and U.S.N. officers respectively. The team which took control of the "'U' boat High Command" was under the leadership of a Commander (E) R.N. This team was responsible for broadcasting the surrender orders to 'U' boats at sea, accounting for all 'U' boats and midget submarines in the German Navy, ensuring that operational and technical information was not destroyed and for the discovery and salvaging of certain 'U' boats wanted for experimental purposes. Junior engineer officers were included in several other teams.

### **German Minesweeping Administration (GM/SA)**

By the surrender terms the Germans were required to turn over their mine-sweeping fleet to operate under Allied orders. The task of re-organising, operating, maintaining, supplying, and administering this fleet of 600 ships and 24,000 men fell initially on ANCXF. To administer this fleet the "German Minesweeping Administration" (GM/SA) was set up. Initially it consisted of a British controlling element under one of ANCXF's Deputy Chiefs of Staff and a German staff, including a Rear-Admiral, selected largely from the former Minesweeping Division of OKM. Later one third of the ships was transferred to the Russian Navy. The British and U.S. shares of the fleet continued to be administered by ANCXF who, by then, had become the British Naval Commander-in-Chief in Germany while the ships were operated by the British, United States, Norwegian, Danish and Dutch Navies as required by the International Mine-

clearance Organisation. Later GM/SA was re-organised under a British Commodore with a Captain as Chief-of-Staff and British heads of departments, each controlling his own German section. The German Rear-Admiral remained as adviser to the Commodore and Controller of the German Staff. Initially, some British flotillas were also employed operating under ANCXF (Main).

In all ports from which German Minesweepers operated, a local section of GM/SA was set up under the NOIC. Apart from the actual maintenance and repair work on ships organised and supervised by the various British repair parties locally, there was the immense task of establishing a routine refitting programme, of locating existing stocks of spare gear and arranging distribution, and of instituting means whereby gear would be manufactured. This latter involved the starting of German factories and of supplying them with fuel and power, all of which had to be arranged jointly with the Military authorities in whose hands lay the control of such matters. This work was handled by the PH staff at Minden who maintained contact with GM/SA through the Lieutenant (E) on ANCXF (GM/SA) and with the operational side through SEO(P) and SOM/S.

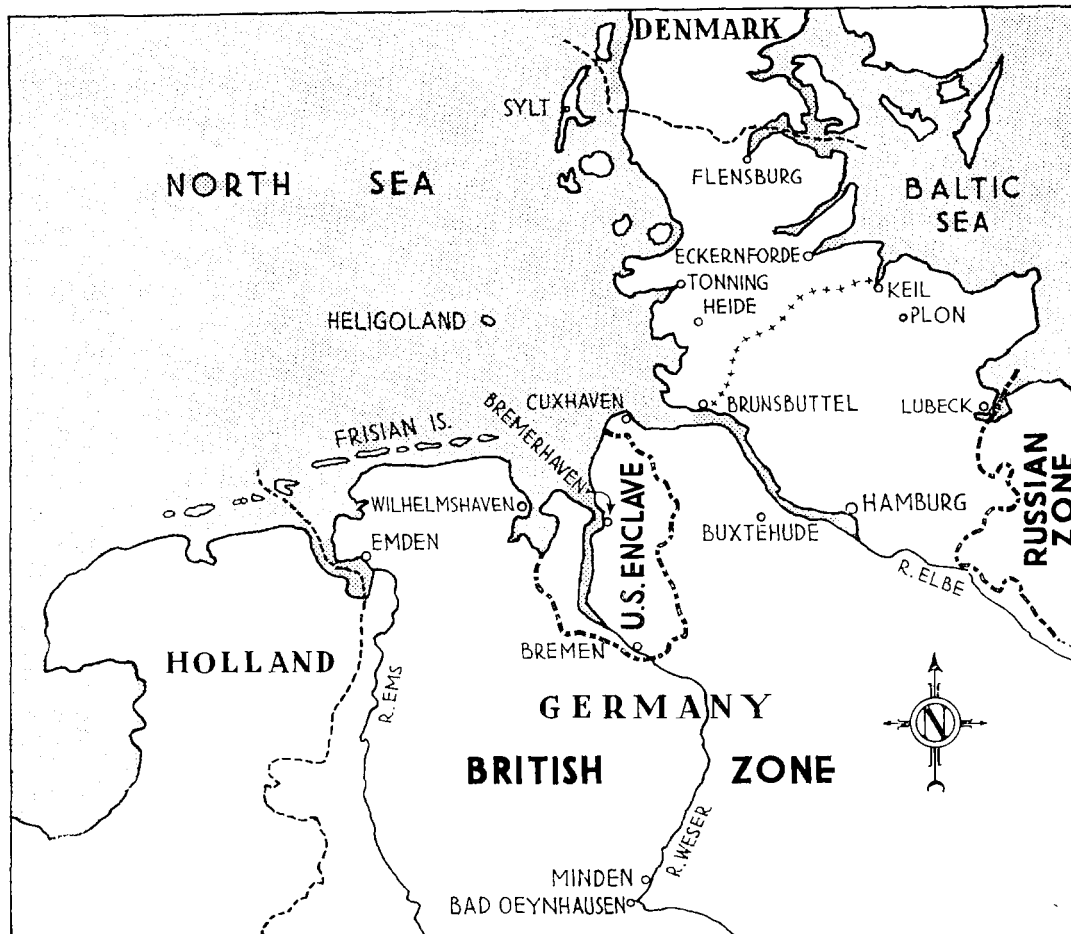
The fact that certain stocks of spare gear and other equipment required operationally was held in the U.S. enclave and much of the normal manufacturing capacity for new gear was in the U.S. zone, added to the complications of getting all that was required to keep the ex-German ships operating. The problem was one of interest to both parties, however, as the U.S. authorities were just as keen to open Bremen and to improve the approaches to Bremerhaven as we were in the case of Hamburg, and, at lower priority, other ports.

On the operational side, one of the major tasks was the provision of fuel for this very large fleet of ships, some of which burnt coal and some oil. Other urgent problems arose too ; such as the need to supplement, from Allied sources, the limited local stocks of boiler compound which the Germans always used. This involved consultation with GM/SA to ensure that their methods of applying the chemicals and of testing were modified appropriately to suit the slightly differing compositions.

## DENMARK AND NORWAY

The work to be performed by the Naval staffs in Denmark and Norway, and therefore the composition and size of the staffs, was quite dissimilar to that in Germany. Considerable assistance was to be expected from the local population in both cases, although the situation in Denmark differed somewhat from that in Norway since the former had not actively participated on the side of the Allies as had the latter. The British Naval staffs had not only to control and disband the considerable German Naval forces which had surrendered in these countries, and return the personnel to Germany, but also to establish a close liaison with and co-ordinate their actions with the wishes of the local governments. In arranging the disbandment of these German forces, allowance had to be made for the vital necessity to employ fully all the minesweeping facilities available, which continually clashed with the not unnatural desire of the nationals to be rid of the Germans from their countries at the earliest possible date.

In Norway the task was considerably more complex and difficult than in Denmark owing to a variety of factors, such as : the great distance between Minden and Norway, and locally between Tromsø, Stavanger, Kristiansand (S), Oslo, etc. ; the poor road communications across difficult country and the limitations imposed by weather in such country on air travel ; the difficulties under which the Norwegian Naval staff were operating during this phase of re-organisation after the occupation ; and the lack of Norwegian Engineer Officers of appropriate seniority and experience to assist the skeleton British



staff. Communications, especially by telephone, with Minden could not be relied upon to the same extent as in other cases.

Visits by ANCXF's staff to discuss problems and make arrangements on the spot were necessary and possible, utilising the services provided by the R.A.F. Transport Command.

Operationally, on the engineering side, the main responsibility of these Flag Officers was for the fuelling of the minesweeping and coastal forces employed in their waters for arranging maintenance and repair facilities from local resources, and, in the case of ex-German ships, by German Naval personnel, specially retained for the purpose.

Of less importance from the local Naval aspect but equally important from the world-wide Allied point of view, was the job of preparing and repairing surrendered German merchant shipping, and the bunkering of them for passage to U.K. and elsewhere to assist in other theatres of war. This latter was an even greater problem in Germany itself and involved a great deal of work in conjunction with M.W.T. and W.S.A.

#### DISSOLUTION OF S.H.A.E.F.

On 13th July, 1945, the joint Anglo-U.S. command, SHAEF, was terminated and the American and British zones became separately administered. ANCXF became British Naval C.in-C. (Germany) (B.N.C. in C.G.), and a separate U.S. Naval organisation came into being in the U.S. zone and enclave, known as U.S. Commander Naval Forces, Germany, COMNAVFORGER.

The British chain of command remained unaltered, but FOWG by this time had moved to a more suitable headquarters at Buxtehude, more centrally situated

and close to Hamburg his most important port. FOSH, who had been accommodated afloat at Kiel in the ex-Hamburg America liner *Milwaukee*, there being no suitable building left intact in the town, had moved to Plön. His new headquarters had been a Kriegsmarine U-boat crew's rest camp, built and fitted out on most up-to-date and lavish lines.

## THE CONTROL COMMISSION FOR GERMANY

Another aspect of ANCXF's (now B.N.C. in C.G.) duties lay with the Control Commission for Germany (C.C.G.) of which he was the head of the Naval Division. A small permanent staff in time was established in Berlin under his COS (PH) who became the deputy Head of the Naval Division (DHND). The services of technical officers from Minden and elsewhere were available to them as required.

An early task of some magnitude was the examination and allocation of all ex-German Naval ships and craft to the Allies, mainly Britain, U.S.A., Russia and France. In the early days, all units that could be moved in British and American ports in Germany, Denmark and Norway had been concentrated at Wilhelmshaven, except minesweepers and other miscellaneous vessels required operationally elsewhere for the time being.

A tripartite commission representing Britain, U.S.A. and Russia, visited all ports, including those in the Russian zone and catalogued all ships and Naval equipment. Their report was used as a basis for the final distribution among the Allies. Engineer and Constructor officers were involved in this work and ultimately it became necessary to appoint a Commander (E) to NOIC, Wilhelmshaven's staff as Fleet Fitting Out Officer (F.F.O.O.) to organise and supervise the work of preparing German Naval units for transfer.

### The Ruhr

Reference has already been made to the necessity which existed to re-open certain factories for the manufacture of spare gear, etc., required to keep minesweepers operating. A further problem that had to be handled in this connection was presented by the fact that much of the German Naval production was centred in the Ruhr. Decisions had to be taken regarding the majority of this large war capacity which was surplus to the operational needs and which was scheduled for disposal as reparations, or for destruction. These decisions had to be made in conjunction with other authorities concerned and in accordance with the policy agreed for the disarmament of Germany, which was being implemented by the Control Commission.

## TECHNICAL DATA FROM ENEMY SOURCES

A special organisation was set up with the object of ensuring that all objectives of value to military (in its broad sense) intelligence, were examined immediately after capture to preserve and obtain data of interest to the Allies. This organisation for Germany, which was known as the Field Information Agency (Technical)—F.I.A.T., was the outcome of earlier experience, which, briefly, was as follows.

In 1943, the Combined Chiefs of Staff had ordered the Joint Intelligence Committee to prepare lists of all objectives in occupied Europe of value to military intelligence and to form teams to gain these objectives. A sub-committee known as the Combined Intelligence Objectives Sub-Committee—C.I.O.S., was appointed for this purpose, of which B.I.O.S. was the British element.

"Target Lists," based on the requirements of all Service departments, were compiled from all available intelligence sources.

The results obtained by small teams which operated in North Africa, Sicily, and Italy encouraged the formation of larger and more fully organised teams for Normandy. A British Naval team, known as 30 Assault Unit (A.U.), was formed ; the R.A.F. also had a small team ; the two Armies had no special teams at first, but detailed units to gain the objectives in the course of normal operations.

Experience in Normandy showed that the information to be obtained was of considerable value and that there was duplication of effort by the various services, and hence occasional friction between rival teams. A combined H.Q. was therefore set up in November, 1944, at SHAEF and the British and U.S. Naval teams became fully integrated. The potentialities of the teams were also envisaged on a much wider basis. Technical processes and commercial secrets in Germany were added to the lists and the Civil Ministries were invited to co-operate.

In January, 1945, F.I.A.T. was constituted with full authority over all existing and future teams. F.I.A.T. was operationally and administratively under SHAEF. The results of their activities were passed to C.I.O.S. who digested and disseminated the information. Teams could, and did, send duplicate information direct to their own Ministries. On the dissolution of SHAEF, F.I.A.T. split into its British and American elements.

Between June, 1944 and November, 1945, when it was disbanded, 30 A.U. and their U.S. counterpart visited and obtained information on nearly 4,500 objectives, to mention but one of major importance, the Walter Werke, Kiel. Engineer officers with 30 A.U. were, fortunately, amongst the first to visit this German experimental works at which valuable material, and data connected with fast German U-boats was preserved from destruction. Amongst other achievements, 30 A.U. claim to have been the first Allied authority to meet the Burgermaster of Bremen and accept the surrender of the town !

In addition to obtaining material and data from sources on the "target list," from time to time opportunities were presented and taken to obtain information from previously undisclosed sources.

For example, an Engineer Officer attached to 30 A.U. noticed that copies of several sets of papers that had fallen into their hands had been sent to an addressee of which no-one had previously heard. As the advance proceeded, he found that a village of that name lay in their path and the opportunity was taken to pay it a visit. He found a large house obviously occupied by German Naval personnel and on entry he was greeted by a German Naval sentry who immediately offered to produce the Admiral in charge. On interrogation it was discovered that certain complete duplicate records were kept there. Immediate steps were taken to ensure that these records were preserved for subsequent investigation.

### **SUPPLIES OF FUEL, LUBRICANTS, AND WATER**

During planning, prior to the fall of Germany, Flag Officer's staffs had attempted to forecast Naval requirements for fuel and water in their ports. It had to be assumed that no fuel would be found on arrival, with the possible exception of small coal stocks. Liquid fuel, if any, would, in any case, have to be tested before use. Shortage of tankers forced planners to rely on local water supplies being available. Estimated consumptions for Allied shipping could be assessed, but the number of enemy ships which would be found operational and their consumptions, could only be guessed.

The demands made on the Admiralty were far beyond the capacity of tankers available. It was finally agreed that only a few specific allocations of tankers would be made in advance for small known commitments. These would be sailed forward as soon as the NOIC's reported that they could be safely received. A further limited block allocation of tankers was provisionally earmarked for

ANCXF, to be loaded and sailed to meet further demands when details of these had been ascertained on the spot and signalled to the Admiralty. This arrangement proved reasonably satisfactory, since some delay in sailing even those ships found to be fully operational on arrival was inevitable, due to the time required to get new organisations working locally under Allied control, bearing in mind the complete chaos existing in Germany after the surrender.

The demand always exceeded the supply and requests for fuel had to be carefully watched by ANCXF to ensure that less urgent requirements in some areas were restricted to ensure that all priority demands were met as expeditiously as possible. A critical situation arose in the Schleswig-Holstein command from time to time, until misunderstandings between Naval and M.W.T. authorities in Western Germany through whose ports tankers were routed to Kiel, had been cleared up.

German stocks of oil suitable for naval use were, to all intents, non-existent. Appreciable stocks at some places were found after test to be suitable for military and commercial purposes ashore and were turned over to 21 Army Group. In general, all supplies for ex-German and British minesweepers, for C.F. craft, for captured enemy merchant ships being sailed to U.K., and for a considerable proportion of tugs and harbour craft, was supplied by Admiralty tanker shipments to Wilhelmshaven, Bremerhaven, Cuxhaven, Hamburg, Kiel, Copenhagen, Oslo, Kristiansand (S), Stavanger, Bergen, Trondheim, Tromsø, and the principal ports. Local storage, where not initially available, was, in most cases, arranged in due course, using where necessary hulks moored in the harbour. Local distribution was made by Flag Officers utilising small local tankers and barges to Emden, Bremen, Lubeck, Flensburg, Aarhus, Frederikshaven and other smaller ports as required. Supplies from U.K. were usually by large tankers, often with split cargoes, which made a round trip to several of the larger ports discharging part cargoes in accordance with demands forecast a month ahead.

In addition to fuel and Diesel oil, considerable quantities of coal were also needed for marine purposes, particularly for the German Fleet M/S, most of which burnt coal. Supplies from German mines were initially non-existent, due, in the first place, to the complete stoppage of work in the mines. Even when work was resumed on a reduced scale, distribution difficulties, owing to the poor state of the railways and even more so to the blockage of canals and rivers by demolished bridges, prevented supplies adequate for even essential services being made. Supplies of coal for gas and electricity works, and for domestic purposes for all three Services are normally an Army commitment. It was essential for the operation of the ports that limited supplies for these latter purposes were available and for an appreciable time these were met from collier shipments from U.K. For Germany, a central stock was established at Brunsbüttel, at the western end of the Kiel canal, where excellent handling facilities existed. Flag Officers arranged local distribution from here in small ex-German craft.

In time, German supplies became available ; first to Hamburg, thence to Cuxhaven by barge, and later direct movement by train to other ports was possible, but only on a very limited and uncertain scale, which depended on such factors as the size of the miners' rations, the weather, the availability of rolling stock and later the degree of movement possible by canal and river, and at all times the need to export coal to France and the Low Countries. Such supplies as were made were co-ordinated by ANCXF who submitted monthly *bids* in advance to BAOR.

By October, 1945, BAOR had established a liquid fuel storage depot at Hamburg and in time was in a position to accept responsibility for supply of all liquid fuels and lubricants for Germany and Denmark, except for those types peculiar to the Navy, e.g., C.F. 100 Octane. From then on bids for

liquid and solid fuels were submitted in co-ordinated form on BAOR by ANCXF monthly, in advance of requirements.

Since the Low Countries still came within BAOR's sphere of influence, although not within that of ANCXF, it was necessary for SEO(P) to include their bids with the German, Norwegian, and Danish.

To illustrate how at times unusual methods of supply had to be organised to meet special circumstances, it is appropriate to note that arrangements were made for the Army to lift by road, several hundred tons of Diesel fuel and petrol in 50 gallon containers into Cuxhaven from Antwerp to meet the needs of mine-sweepers during the early phases before tankers could enter. At a later date, diesel oil required for use by a flotilla of GM/SA sweepers operating from the small port of Esbjerg on the west coast of Denmark, was supplied by Admiralty by tanker to Hamburg, from where it was taken in rail tank cars by the Army to its destination.

To avoid the necessity for German personnel being accommodated ashore on Danish soil, maintenance for the German sweepers was provided by a mobile German unit embarked in an F Lighter (a type of German landing craft), which, together with a German depot ship, accompanied the flotilla.

For the first few months, this work was sufficient to justify a full time fuelling officer with ANCXF. In due course, when the work became more of a routine nature, it was possible for the SEO(P) to handle all fuel problems in addition to his maintenance and repair work and the fuel officer was released. It continued to be necessary, however, for FOSH and FOWG to retain their fuel officers and in certain ports, such as Cuxhaven, one Engineer Officer of the NOIC's staff found full employment dealing with fuel.

### **Spare Gear**

Reference has been made earlier in this narrative to the inability of local authorities to keep ships fully operational owing to the serious lack of spares. This trouble was experienced throughout the campaign, the major problems arising in the early days with landing craft, and at all times with minesweepers and to a lesser extent with C.F. craft.

Along with fuel supplies, it was always the B.E.O.'s greatest worry. An outstanding case can be quoted as late as 1945 ; the British minesweepers at Cuxhaven were by then reduced to one flotilla of MMS, but, even so, the spares available were quite inadequate.

It appears that this situation can be attributed to three main causes :—

- (i) The policy of concentrating manufacturing capacity on production of the maximum number of complete ships at the expense of adequate spare gear.
- (ii) The policy, the necessity for which was dictated by circumstances, of keeping all spares centralised in U.K., combined with the long delay involved in obtaining spares from this central depot. To this must be added the further delays that the central depot experienced in replenishing its stocks, often from across the Atlantic.
- (iii) The diversity of types of main and auxiliary machinery to be found even among ships of the same flotilla, which often had been made by three or four different firms.

In the absence of spares, the ships were immobilised for long periods. Ample spares for fewer ships, which would have enabled the majority of them to be maintained fully operational, would have proved more economical in man power. Further, plans which had been drawn up, assuming a certain number of ships as allocated would be available, would not have been dislocated by unforeseen breakdowns which could not be rectified without long delays.

## REPAIR WORK CARRIED OUT IN GERMAN PORTS

The scale and nature of work performed by the repair staffs varied in each port. The scale of it may, however, be judged from the following summary of that undertaken in Kiel. NOIC Kiel was responsible not only for the operational maintenance and repair of his own harbour craft, tugs, ferries, launches, salvage vessels, floating cranes, etc., and for a large number of ex-German minesweepers and other Naval vessels employed in that part of the Baltic, but also for ex-German minesweepers sent to Kiel for major refits from Denmark and Norway, for a high proportion of the ex-German merchant vessels required for Allied service, and for many vessels of all types allocated to Russia under the Tripartite agreement.

In general, the work was performed by the Germans using German material, the responsibility of the British repair staff, which was mainly composed of the officers and key ratings retained from No. 4 MLRU, was confined to organising and supervising.

Some 550 vessels were completed between 1st June, 1945, and 31st March, 1946, including 130 merchant vessels, 225 miscellaneous types, and 195 ex-German minesweepers and other Naval vessels, of which latter 40 were *M* Class (fleet), 33 *R* Class and 42 auxiliary type minesweepers.

The following examples, with approximate cost, of some of the major merchant ship jobs are worthy of note :—

- (i) *Empire Venture* (ex-*Wikinger*) 15,000 ton Whale Factory Ship. Repairs to bomb damage, including enlargement and reconditioning of all factory machinery ; major structural repairs and complete reconstruction of entire bridge structure. (R.M. 3,000,000.)
- (ii) Complete reconstruction of 3 whale catchers from wartime use as submarine chasers. (R.M. 400,000.)
- (iii) *Oranjefontein*.—10,000 ton Passenger and Cargo Vessel. Restoration to its original condition for Dutch Government. (R.M. 500,000.)
- (iv) *Milwaukee*.—17,000 ton Passenger Vessel. Repair of fire damage and fitting out as Passenger Vessel. Handed over to the Americans and later to the British (R.M. 300,000.) (This vessel has since been completely gutted by fire in Liverpool.)
- (v) *Hydra*.—17,000 ton Tanker. This ship was converted during the War by the Germans as an accommodation and supply ship. Repairing Mine and Bomb damage and reconverting for use as oil tanker for Anglo-Saxon Oil Co., Ltd. (R.M. 1,400,000.)
- (vi) 350-ton *Demag Floating Crane*.—Stripping of entire jib and part of superstructure for passage through Kiel Canal and turning over to U.S. Authorities in Antwerp (R.M. 150,000).
- (vii) Conversion of 11 K.F.K.'s from minesweeping to fishing duties. (12 more were completed at a later date.)
- (viii) *Max Stinksy*.—Aircraft Tender on U.S. allocation. Renewal of bows and major engine room work.
- (ix) *Brunhilde*.—Repairs to hull damage caused by mine.

At this time it was also under consideration to take in hand later the repair of major fire damage, involving four months' work, on the *Empire Rhodes*, and to complete the construction of the *Atlas* and *Ostmark*, involving 300 men for four months and 400 men for five months respectively.

### Drydockings

Drydocks were available, or made available, sufficient for 340 vessels of all types to be docked during this period.

Priorities, of necessity, constantly changed, but the work of highest priority during one period was the repair of ships allocated under Tripartite Agreement—particularly to Russia, involving much disorganisation of the refit programme and very quick dockings and repairs.

### Cuxhaven

To obtain a balanced picture, it is necessary also to consider the work performed at Cuxhaven ; merchant vessels did not feature here as at Kiel. The minesweeper programme was no less extensive and was of even greater importance. In addition to this and the work on miscellaneous harbour craft and vessels, there was a considerable C.F. maintenance and repair programme to be undertaken.

The minesweepers' commitment was complex too, for in addition to the ex-German vessels, there were the British flotillas based there and others " visiting " from the Nore Command, which were handled entirely by the port repair party.

From the first days of the occupation, Cuxhaven was an operational port for minesweepers. For this purpose it was ideally suited, having excellent accommodation alongside for vessels of medium draught. Electric power, water, and fuel were available at all berths.

A small but undamaged oil fuel installation was quickly put into operation. Supplies of German oil fuel were practically nil, but the tanks were cleaned and filled with stocks of oil fuel and Diesel oil brought by tanker from U.K. The primary object was the fuelling of minesweepers operating from the port ; but visiting destroyers and other vessels were also supplied where necessary. The fuel installation was operated by its original German staff under the direction of a British Fuelling Officer—a Warrant Engineer on the B.E.O.'s staff. This officer was also responsible for supplies of coal and water in addition to liquid fuels and lubricants. Petrol for C.F. craft was not kept ashore as it was found more convenient to employ a small harbour tanker for this purpose. Coal for the bunkering of coal-burning German minesweepers was supplied from colliers brought forward from U.K. until German stocks could be built up.

Local repair facilities were provided by three small, but undamaged and well-equipped firms in the port. These operated under the control of the B.E.O. There were no dry docks, but a number of slips were available which could accommodate vessels up to the size of Fleet Minesweepers.

Electric power was obtained from a German turbo-electric vessel—the *Heligoland*. This source of power had been used by the Germans prior to the occupation after the grid system had been put out of action by R.A.F. bombing. Its continued use enabled the port to be operated successfully, and repair work to continue at times when other ports were practically without electric power.

Approximately 80 minesweepers were operated from Cuxhaven. Initially, 50 of these were British, and ranged from fleet to motor minesweepers. They were gradually replaced by German flotillas as the latter were made fit for operation ; but these were all in a very poor state of repair and needed constant attention. Preparation of trawlers for fishing was also undertaken ; but this remained a secondary priority, as Cuxhaven was primarily a minesweeping base.

### OPERATION " OVERLORD " COMPLETED

The object of operation *Overlord*, in the attainment of which the naval operation *Neptune* had played so essential a part, had been achieved. The Allied armies had again established a foothold on the Continent. Germany had been overthrown, occupied and was being disarmed. The work in the ports was, as yet, unfinished but was rapidly assuming a routine nature. As commitments

were reduced the size of parties was cut, officers and men were redistributed and, as far as possible, released for duty elsewhere. There was no call on the H.Q. technical staff for further operational planning, except in minor detail, and, as in the ports, routines became established, the services of a Staff Engineer Officer (Plans) were no longer necessary; his few remaining interests were turned over to members of the P.H. Staff and in October, 1945, he was released.

The work of the P.H. Staff continued and will continue on a reducing scale, probably as long as the occupation of Germany continues. Far more than has been recounted here could be told of their work, but only sufficient has been included in this narrative to present a balanced picture of the duties of ANCXF (and later B.N. C. in C.G.) from the operational aspect.

### **Relationship between Technical and Operational Sections of the Staff**

In conclusion, it is desired to record some points of procedure regarding the means whereby the technical section of ANCXF's staff, throughout this immense and prolonged series of operations, had successfully maintained contact with, and had access to, the operational staff.

The work of the technical staff involved duties which extended far beyond the normal responsibilities of Engineer, Constructor, and Electrical Officers. Some overlapping with other staff officers was inevitable, in fact, desirable, if gaps in the plan were to be avoided. It was necessary to ensure the closest co-operation with other officers and keep up to date in all political, strategic, and tactical developments concerning the operation, since these and their implications had some bearing on decisions which they alone could and must make. It was necessary to appreciate the military aspects of the situation if the best possible use was to be made of the limited technical facilities available. On no account could technical officers consider themselves purely as technicians.

In the early days, the Staff was too large for every section of it to be personally represented at all meetings. Normally, the views of the technical staff were presented through the Chief Naval Administrative Officer. The Engineer Rear-Admiral and Constructor Officer attended operational meetings only on special occasions. Electrical problems were dealt with by the Engineer Rear-Admiral.

Subsequently, when numbers became more manageable, S.E.O.(P) regularly attended the daily meetings of S.O.O. at 0900 and of the C. in C. at 1015. When absent from H.Q. he arranged for S.O.O. or S.O. (Plans) to raise any special points that required action in his absence.

Engineering, constructional, and electrical problems were all handled by S.E.O.(P) at S.O.O.'s meetings. The Constructor Officer also attended C.-in-C.'s meetings whenever he had any major problem of his own to discuss. Through S.O.(P), S.E.O.(P) kept himself informed of pending operations and military intentions, so that he could anticipate requirements and warn the operational staff of any technical problems that might influence future plans. Attendance at meetings further assisted in this direction and enabled S.E.O.(P) to obtain early decisions based on an overall appreciation of all aspects of the problem, thus avoiding the necessity for possible amendments later. Whenever there were likely to be any technical implications, however remote, S.E.O.(P) always accompanied S.O.(P) to any special meetings that might be held.

In the later stages, when ANCXF (Main) and (P.H.) were amalgamated, although C.E.O. attended C.-in-C.'s meetings as the senior E.O. on the staff, it was arranged that S.E.O.(P) should also be present and, in general, he handled the operational points, leaving C.E.O. to deal with the strictly "PH" problems.

The large fleet of U-boats presented many intricate problems, and it is worthy of note that the work of Staff Officer (U-boats) on ANCXF's staff was under-

taken by a Commander (E) in addition to his normal duties as S.E.O. (U-boats).

Evidence of the success of this arrangement is to be found in the fact that the Chief of Staff once remarked that he had never known a staff on which the technical and operational sections had been so closely integrated and with such successful results. He hoped to see more of this close liaison in any future staff work with which he may be involved.