ESTIMATE
of
Potential Military Strength
Documents A
Naval Attaché
LONDON

Volume 2
Documents Numbers 78 to 141
(1 Oct. 1938 - 2 Aug. 1939)
ATTACHE'S REPORT

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From I

Date: October 1, 1938

Serial No. 972

File No.

(Comments new series
subject report number
from C. N. I. Index)

Source of information Various

Subject GREAT BRITAIN

NAVY

ANNUAL REPORT

(Nation reported on)

(Indicate title as per index sheet)

Reference

Reference: (a) DMI Letter Op-16-B-10, As-1/CN/EN/13 (11-25) of 11 March, 1937 - Legislative Data Report

(b) M.A.London Report No. 250 of 7 March, 1938

(c) M.A.London Report No. 568 of 8 June, 1938

(d) M.A.London Conf. Report No. 961 of 12 October, 1938

(e) M.A.London Conf. Report No. 916 of 4 October, 1938

(f) M.A.London Report No. 926 of 3 September, 1938

(g) M.A.London Report No. 220 of 2 March, 1938

(h) M.A.London Report No. 612 of 25 June, 1938

(i) M.A.London Report No. 659 of 7 July, 1938

(j) M.A.London Report No. 948 of 27 July, 1938

(k) M.A.London Report No. 917 of 30 September, 1938

(l) M.A.London Report No. 969 of 14 October, 1938

(m) M.A.London Report No. 923 of 4 October, 1938

(n) M.A.London Report No. 464 of 12 May, 1938


(p) M.A.London Report No. 658 of 14 July, 1938

(q) M.A.London Report No. 748 of 9 August, 1938

(r) M.A.London Report No. 778 of 21 April, 1938

(s) M.A.London Report No. 526 of 26 May, 1938

Enclosure: (A) Appendix I - pages 1 - 7, British Naval Building Program; Status as of 1 October, 1938 - five copies

(B) Appendix II - pages 1 and 2, Vessels completed from 1 October, 1937 to September 30, 1938 - five copies

ANNUAL REPORT ON BRITISH NAVY

Reference: (a) DMI Letter Op-16-B-10, As-1/CN/EN/13 (11-25) of 11 March, 1937 - Legislative Data Report

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(B) Appendix II - pages 1 and 2, Vessels completed from 1 October, 1937 to September 30, 1938 - five copies
1. As directed in reference (a), the below report is submitted covering British naval items of interest for the twelve months beginning 1 October, 1937, and ending 1 October, 1938. This report includes data as to ships in commission, in reserve, or under large repair, and the status of the building program. A summary of British Fleet manoeuvres and general items of interest on shore establishments, naval agreements, Spanish patrol, escalation conferences, etc. is given.

2. The following list of ships that were in full commission on 1 October, 1938, is given below. Attention is invited to the British Navy List, published monthly, which is furnished the Navy Department as it is published. This List contains up-to-date data as to the status of ships of the Royal and Dominion Navies.

**Battleships**
- Nelson
- Rodney
- Royal Oak
- Ramillies
- Revenge
- Royal Sovereign
- Warspite
- Ranmore
- Malaya
- Resolution

**Battle Cruisers**
- Repulse
- Hood

**Monitors**
- Enerus (Training)
- Terror
- Marshal Soult (Training)

**Aircraft Carriers**
- Ark Royal
- Glorious
- Courageous
- Eagle
- Furious
- Argus

**Seaplane Carriers**
- Pegasus
- Albacross
ATTACHÉ'S REPORT

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From: X  Date: 1 October 1938  Serial No.: 972  File No.: 

Subject: GREAT BRITAIN

Reference: (Index card in file)

NOTES - (The series, indexing, and distribution of reports by O. N. I. will be greatly simplified if a brief summary of the contents is entered in the space. Mention leading geographical, personal, or political names, and the gist of the report.)

(Ships in full commission - continued)

Cruisers

LIVERPOOL  APOLLO (Australia ?)  KETER
BIRMINGHAM  CORNWALL  AJAX
AURORA  CARDIFF  ACHILLES
MANCHESTER  LONDON  LANDER
GLASGOW  SHROPSHIRE  NORFOLK
SHEFFIELD  SUSSEX  EMERALD
SOUTHAMPTON  DEVONSHIRE  CURACAO
NEWCASTLE  CUMBRIA  VINDICTIVE
PERELOPE  SUFFOLK  (Cadet Training)
ARIESA  DORSETSHIRE  NEPTUNE
GALATEA  YORK  CAVENAGH
AMPHION (Australia ?)  ORION  (Australia)

Large Minelayers

ADVENTURE

Destroyers

MOHAWK  ESK  AROW  GRIFFIN
AFRIDI  EXPRESS  FAULHABER  GARDLAN
COSSACK  FAULHABER (L)  ARROW  GILD
ZULU  FEARLESS  AMBROSADE  GRAY
KEMPFT (L)  FORTUNE  SKATE  GLOWWORM
RASILISK  FAME  WELWEXTER  GREYHOUND
RAGLE  FORESTER  SABER  GRENADA
BRANCE  FOURED  WINCHELSEA  GALLANT
BOADICEA  FIREBRACE  WINCHELSEA  HOSTILE
BORGAS  FOREIGHT  ACHATER  HERO
BRAEM  FURY  WALPOLE  HABY
BRIFFIANT  WAVERER  VANQUISHER  HYPERION
BULLDOG  WITHER  VIBCOUPT  HAYSWORTH
ECCLEST  ANTHONY  WISHER  HEYWARD
KIRK (L)  BERN  VICKOUP  HICKNER
MOUTH (L)  WESSINGTON  WOLSTON  HOTSPUR
ECH  ARDEN  WISEART  ICLANFIELD (L)
ECLIPSE  ACASTA  SCUTT  ICARUS
ANDREW  SALTUS  SCUMTHER  INGRID
ESCAPADE  HANROCK  SPRINT  INGRID (L)
HOUSTON  VERITY  WHEATLY  ISIDORE
HOUSTO  ANKHOPE  GIVRELL  IMOGEN

(Assignment of ships to the C.O.I. is subject to change without notice.)
ISSUED BY THE INTELLIGENCE DIVISION, OFFICE OF CHIEF OF NAVAL OPERATIONS, NAVY DEPARTMENT

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Date: 1 October, 1958
Serial No.: 972
File No.: [File Number]

Source of information: [Source Information]

Subject: GREAT BRITAIN

Reference: [Reference]

(Ships in full commission - continued)

Destroyers (Cont'd.)

IMPERIAL
LEX
INTREPID
IVANHOE
IMPULSIVE
DUNCAN (L)
DELIGHT
DIAMOND
DIANA
DUCHESS
DECAY

SAGUENAY (Canada)
SKEENA (Canada)
OTTAWA (Canada)
WESTPORT (Canada)
WIRE
STRONGHOLD
SHIKARI
VENUS

Submarines

PORPOISE
H-43
SWORDFISH
SEAHORSE
STARBURG
SEAWOLF
SUNFISH
S-26
H-35
H-49
H-52

RAINBOW
REGENCY
REGULUS
BOER
BOER
GRANAT
UNGAR
TRITON

Escort Vessels

BYPASS
STORK
ENCHANTRESS
ABEDNEK
FLEETWOOD
LONDONDENRY
DEEPFORD
CRIMSON
LOWER SOFT
WESTON
DUDDE

MILFORD
PALMOUTH
BOXCROST
FOWEY
SHOREHAM
BIDFORD
PRINCE
POLEBRIDGE
HASTINGS
BRIDGEMARK

SANDWICH
SWAN (Australia)
YARRA (Australia)
INDUS (India)
HINDUBA (India)
CLIVE (India)
LAWRENCE (India)
CORMORANT (India)
WELLINGTON
LEITH

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From. Date October 19, 1958 Serial No. 978 File No. 

Source of information

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Reference

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(Ships in full commission - continued)

Minesweepers

HERO SEAGULL SALAMANDER TUDWORTH
SHARKSHOOTER JASON HUSSAR FESTUBERT (Canada)
HAZARD LEA ALBREDFORD YPRES (Canada)
CLEANEY NIGER BALTUBER ARNHEIMN (Canada)
GOSSAMER

Patrol Vessels

WIDGEON MALLARD KINGFISHER KITTNAKE
SHELDRAKE PUFFIN PATHAN (India)

River Gunboats

ROMIN SEAMAN CRICKET APHIS
SALDIPPER TERN LADYKIRD GHAT
FALCON BEE MOTH MARTIS
GAMETE CICALA TARANTULA SCARAB
PETREL COCKSHAPER

Minelayers

LINNET HOOVER
FLOVER

Motor Torpedo Boats

No. 9 No. 6 No. 8 No. 10 M.T.B.101
No. 8 No. 5 No. 2 M.T.B.102
No. 1 No. 4 M.T.B.103

Survey Ships

M.M.S. 1 M.M.S. 2 M.M.S. 3
CHALLENGER FITZROY MOREBY (Australia)
ENDEAVOUR HERALD

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From X Date 1 October 38

Serial No. 972

File No.

(Continued on next page)

Source of information...-

Subject... GREAT BRITAIN

(Nation reported on)

(Subtitle)

Reference

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(Ships in full commission - continued)

Boat Defence Vessels

Barbarian

Ravens

Rabbits

Trapet

Cypress

Drifters

Cloud

Fumarole

Halo

Iron Duke

Target Ship

Carter

GREAT BRITAIN

(Ships reported on)

(Ships in full commission - continued)

Boat Defence Vessels

Ravens

Rabbits

Trapet

Cypress

Drifters

Cloud

Fumarole

Halo

Iron Duke

Target Ship

Carter

GREAT BRITAIN

(Ships reported on)

(Ships in full commission - continued)

Boat Defence Vessels

Ravens

Rabbits

Trapet

Cypress

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Cloud

Fumarole

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Carter

GREAT BRITAIN

(Ships reported on)

(Ships in full commission - continued)

Boat Defence Vessels

Ravens

Rabbits

Trapet

Cypress

Drifters

Cloud
ATTACHÉ'S REPORT

From: [Name]
Date: 1 October 1938
Serial No.: 978

Source of information: GREAT BRITAIN
Subject: NAVAL OPERATIONS

Reference:

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-Ships in full commission - continued-

Hospital Ships
MAINE
Boom Gate Vessels

DOWGATE
LIDGATE
WATERGATE

ALDGATE
BISHOPSagate
MOORAGATE

REIGATE
FOLGATE
ROGATE

SANDGATE
SOUTHGATE
PAEGATE

Oilers

ARENDAL
BIRCHOL
BRISBANE
BROOKMERE
CELEBOL
CHERRYLEAV
DISCHEL
DISTOL
EBRONOL
ERLEBOL

KOLMO
KOMOL
LEMO
LIMOL
LARCHOL
LARCHOL
LARQOL
LOCHOL
LROMOL
LROMOL

KLUMOL
KROMOL
LROMOL
LROMOL
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LROMOL

ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL
ORANGEHOL

WAR SHARADA
WAR SHARADA
WAR SHARADA
WAR SHARADA
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WAR SHARADA
WAR SHARADA
WAR SHARADA
WAR SHARADA
WAR SHARADA

Tank Ships

CORONATION
COVENTIL
COXHEL
MIX

Monkey
PLUNKER
PROVIDER
SUPPLY

TORTOISE
URGENT
AID
ASF

FAITHFUL
DESBOT

Petrol Carriers

PETRELLA
PETREBUS

TEDDERS - Submarine School

EELFEN
ELVAN
ELABY
ABANTOY

REDNING
REDNING
REDNING
REDNING

NIGHTINGALE
NIGHTINGALE
NIGHTINGALE
NIGHTINGALE

SKYLANCI
SKYLANCI
SKYLANCI
SKYLANCI

Torpedo School

SKYLANCI
SKYLANCI
SKYLANCI
SKYLANCI
ATTACHE'S REPORT

The Intelligence Division, Office of Chief of Naval Operations, Navy Department

From: [Blank]
Date: 1 Oct., 1958
Serial No.: 972
File No.: [Blank]

Source of information

Subject: GREAT BRITAIN
(Nation reported on)
(Index title as per index sheet)
(Subtitle)

From: [Blank]
Date: [Blank]
Serial No.: [Blank]
File No.: [Blank]

Reference

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(Ships in full commission - continued)

Fleet Supply Ships

BELIANT

Cable Ships

KILMENA

LASSOOG

3. The following ships were in Reserve as of 1 October, 1958:

Aircraft Carriers

HERMES

Cruisers

HAWKINS

CAYNE

COLOMBO

DIOMEDE

DAPPLES

EFFINGHAM

CALypso

CARADOC

BURNT

ADELAIDE (Australia)

CAPPING

CALCUTTA

DUNEDIN

AUSTRALIA (Australia)

CERES

CURLEW

DANSEY

CALDON

CARLISLE

DRAGON

Destroyers

WALLACE (L)

WESSEX

WITCH

VOTTER

TRAMET

WOLVERINE

WESTMINSTER

YANG

CODRINGTON (L)

SALADIN

STUART (L) (Australia)

MONTROSE (L)

VINI

VENDETTA (Australia)

WAGOL

VICEROY

WATERHEN (Australia)

MACKAY (L)

VIGILANT

VERA

CAMPBELL (L)

FEGA

WALKER

KEPPLE (L)

WICK

WHITSHED

WARTHICK

VENIZE

WINDHAM

WILLOW

WORTHLEY

WEWENZ

WYATT

WOODWARD

WYNGLE

WYNDOS

WYNN

Wyte

Wyndham

Wyvern

Wyvern
**ATTACHÉ'S REPORT**

From [Name] Date 1 Oct., 1938 Serial No. 972 File No. 

Source of information

Subject GREAT BRITAIN (Nation reported on)

Reference

Note: The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.

(Ships in Reserve - continued)

| Destroyers (cont'd.) | VANSITTART | VENOMOUS | VIMIENTA | VIVACIOUS | WITHERING | WITHERINGTON | WYTHEN | WYTHEN
|----------------------|------------|----------|----------|-----------|------------|-------------|--------|--------
| Submarines           | L-21       | L-23     | L-54     | L-69      | OBERON     | OXLEY       | H-28   | H-51   |
| Escort Vessels        | ROSEMARY   | HAREBELL | LUPIN    |
| Minesweepers          | PANGBOURNE | TIVERTON | ALBURY   | DUNDALK   | DUNOON     | ROSS        | SUTTON |
| Patrol Vessels        | P-59       | P.C.74   |
| Mineslayers           | MINERVA    | MEDA     |
| Motor Minesweepers    | KELLET     | FRANKLIN |

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**Table:**

<table>
<thead>
<tr>
<th>Class</th>
<th>Type</th>
<th>Size</th>
<th>Speed</th>
<th>Armament</th>
<th>Complement</th>
<th>Engine</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>A-C-D-E</td>
<td>(Flagship)</td>
<td>2,311</td>
<td>1,478</td>
<td>2,311</td>
<td>1,478</td>
<td>2,311</td>
<td>1,478</td>
</tr>
</tbody>
</table>
(Ships in Reserve - continued)

Submarine Depot Ships

ALECTO
CYCLOPS

Prawlers

GARRY
WILLOW
HAWTHORN
LIPPEY
DEE
JAMES LULIFORD

KENNET
BLACKWATER
KATE LEWIS
CHERRY
EDEN

HOLLY
LAUREL
LILAC
JASPER
AMETHYST

CORNELIAN
PEARL
RUBY
FOYLE

Drifters

COLDHARPS
LANDFALL

CRESCEI MOON
EUDY

SUNSET
ERBSDIDE

RENEWAI

Repair Ships

RESOURCE

Boom Gate Vessels

WESTGATE

4. The following ships completed extensive refits during the past year or are still under refit:

Battleships

WARSPIKE - The WARSPIKE was the first ship of the Class to undergo a second modernization, which included new engines and boilers, and amounted almost to reconstruction. This work was begun in March 1934, and did not leave the dockyards until January 1935, ready for active service in the Mediterranean as Flagship. The total amount spent on this reconstruction is $11,400,000. In 1936, the estimate to complete was $277,000. The amount actually spent to complete was $290,000.
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Source of information: [Blank]

Subject: GREAT BRITAIN

Reference:

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(Ships under refit or refits completed - continued)

Battleships - cont’d.

WARRIORS (cont’d.)

First Lord's Statement, February 28, 1938, accompanying the 1938 Navy Estimates: "The reconstruction of the WARRIORS has been completed. Difficulties arose during sea trials owing to the interaction of the propellers."

QUEEN ELIZABETH - Taken in hand at Portsmouth 11 August, 1937, for extensive refit, including new engines and boilers. Estimated that the work will be completed in the late summer of 1938.

VALIANT - Taken in hand at Devonport March 1, 1937, for refit, including new engines and boilers. It is estimated that the work will be completed in the spring of 1939.

RAMILLIES - Listed in the 1938 Navy Estimates, page 390. £200,000 has been provided in the Navy Estimates for work on this vessel in the present financial year, but she had only a short overhaul in August, 1938, and joined the Fleet between 18 and 25 August, 1938.

BARRAM - Not listed in 1938 Navy Estimates, but referred to by First Lord in Parliament (Debates, April 15, 1938, column 1110) as undergoing refit, remaining at short notice for sea.

RESOLUTION - Refitting at Devonport. Listed in 1938 Navy Estimates, but not referred to by First Lord in Statement with Estimates. The Times, May 30, 1938, stated that over £200,000 is being spent on this refit, during which the ship remains in commission with a Reserve Crew. The First Lord, in Parliament (Debates, April 15, 1938, column 1110) referred to the RESOLUTION as "now undergoing refit" and remaining at short notice for sea while refitting.

Battle Cruiser

RENOUV - Taken in hand at Portsmouth September 2, 1936, for large repairs, including re-engining and re-boilerizing. Estimated that the work will be completed in the spring of 1939. First Lord's Statement with 1938 Estimates: "Work on the RENOUV is proceeding satisfactorily."
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(Ships under refit or refits completed - continued)

Aircraft Carrier

ARGUS - Large refit commenced at Devonport in July 1936. First Lord's Statement with 1938 Estimates: "The ARGUS, in hand at Devonport for large repairs and fitting for aircraft training services, will be completed during the summer of 1938."

B.A. London Report, August 24, 1938, states that the ARGUS was recommissioned August 9, 1938, from Reserve Status.

Cruisers

COVENTRY - September 1938 Navy List, page 205, shows as under refit at Portsmouth. Not listed by name in Navy Estimates but may be one of the "C" and "D" Cruisers (see later item) listed in Navy Estimates as Six "C" and "D" Cruisers.

HERMIONE - Large refit. Started in December, 1937, at Chatham. Due for completion in about twelve months. Listed in 1938 Navy Estimates, but not referred to in First Lord's Statement with Estimates. The Times, February 19, 1938, stated that alterations would include fitting of extra armor protection, increase from four to six 4-inch A.A. guns, and provision for three amphibious aircraft instead of the former single seaplane.

KEFTE - Taken in hand at Chatham for refit, December 1936. Listed in 1938 Navy Estimates, but not referred to in First Lord's Statement with Estimates. Hampshire Telegraph & Post, July 1, 1938, stated that the KEFTE completed to full crew on June 30, 1938. 2852,537.


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From X Date 1 Oct., 1936 Serial No. 

Source of Information

Subject GREAT BRITAIN

Reference

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(Ships under refit or refits completed - continued)

Cruisers (cont’d.)

CORNWALL - Extensive repairs and some alterations. Commenced at Chatham in September 1936. Not listed in 1936 Navy Estimates, but First Lord's Statement with Estimates says: "The CORNWALL was completed in December 1937, at Chatham, for service as boys' seagoing training ship." £256,815.


Six "C" and "D" Cruisers - Listed in 1938 Navy Estimates as Six "C" and "D" Cruisers but not referred to in First Lord's Statement with Estimates. Low sum of estimated expenditure in 1938 is given as £579,960. earmarked for conversion to Floating Anti-Aircraft Batteries.

AUSTRALIA - (Australian Navy) - Times, May 11, 1938, states that the AUSTRALIA has been paid off, that the vessel has been ten years in commission, and it is understood that it will undergo a refit similar to those of the KENY Class in the Royal Navy.

5. The Navy Estimates for 1938 were issued on 4 March, 1938. The total of these Estimates was £123,707,000, which sum was £18,642,000 more than the Navy Estimates for the previous year. The amount to be provided from the consolidated fund under the provisions of the Defence Loan Acts was £250,000,000 as compared with £27,000,000 for the 1937 financial year. The net total of the Navy Estimates was therefore £25,707,000 compared with £78,065,000 for 1937, an increase of £15,642,000. These items contained nothing on account of the new construction program for 1938. Reference (b) summarized the 1938 Estimates and pointed out that three more battleships were to be modernized (RAMILLIES, REVENGE, RESOLUTION), each of which was to have approximately £200,000 expended on it in the financial year 1938. The total personnel provided for was 119,000, an increase of 7,000 over the personnel for 1937.
6. The Supplementary Navy Estimates for the fiscal year 1938 were issued by the Admiralty on 31 May, 1938. This Estimate amounted to £2,410,500, and was made up as follows:

New naval construction............ £1,773,500
Marriage allowances for Royal Navy and Royal Marine officers.................. 264,200
Increased marriage allowances to naval ratings and increased pay to special service ratings.... 750,800

It was noted in reference (c) that the Australian Government was to sell to the British Government the seaplane carrier ALBATROSS. Payment of the first instalment on the purchase price of this vessel was given as £92,000. The Australian Government was to take over two British cruisers. These transfers have been made. The first instalment of the price of a cruiser was given in the Estimates as £450,000.

7. The estimates for new construction make up the bulk of the 1938 Supplementary Navy Estimates and give funds for starting and continuing work for the financial year ending 31 March, 1939. Reference (c) comments on the estimated amount of work to be undertaken on the different classes of vessels in this new construction program. It was noted that no new destroyers were included in the 1938 Estimates.

PROGRESS ON THE NAVAL BUILDING PROGRAM

8. Up to the close of the period covered by this report (1 October, 1938), the following contracts for naval vessels in the 1938 Supplementary Estimates were placed at the times given (excluding motor torpedo boats and other small craft):

May 1938 - One "T" Class Submarine each to Vickers-Armstrongs Limited, Barrow-in-Furness, and Cammell Laird & Company, Birkenhead

August 1938 - Three Cruisers of the "DIDO" Class, one each to Cammell Laird & Company, Birkenhead
Hawthorn, Leslie & Company, Hebburn-on-Tyne, and Scott Shipbuilding & Engineering Company, Greenock
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From

Date 1 Oct., 1958

Serial No. 972

File No.

Source of information

GREAT BRITAIN

Subject

Reference

October 1958 - the new Aircraft Carrier (recently given the name IMPREGNABLE) to Fairfield Shipbuilding & Engineering Company, Govan

It has been announced in the press that the third submarine will be built at the Dockyard, Chatham. It has been rumored that the contracts for the two new battleships (recently given the names LION and TENEBRAE) will go to John Brown & Company at Clydebank and Harland & Wolff at Belfast. These will probably not be laid down before next spring.

9. The new ships covered by the 1958 Supplementary Estimates will be found listed in Appendix I forming part of this report. There are also listed in the same Appendix all new ships including the programs prior to 1958 which remain uncompleted as of 1 October, 1958. The estimated dates of completion given in the last column of Appendix I are the most recent dates furnished this office by the Admiralty. The approximate times for the construction periods in months is as given in paragraph 7 of the last Annual Report covering the year previous to 1 October, 1957.

10. In its attempts to speed up the rearmament program, the Government has not had sympathetic support from the labor unions. The unions are principally concerned with the practical consequences of the Government’s policy on present and future employment. They foresee the danger of congestion of workpeople in the armament industries after completion of the programs, as was the case at the end of the World War. Profiteering is another point which antagonizes the unions. They have been against increasing the number of workers in industry with non-skilled men to dilute skilled labor as a means of speeding up armament measures. Insofar as the Naval building program is concerned, the foregoing has probably had some effect in delaying progress but has not been the principal cause of delay. The controlling items have in reality been the guns, armor and fire control equipment. Progress on the naval building program during the past year has improved, however, and the indications of delays on account of steel material, frequently noted in the press and reported from time to time to the Department, have not been noted in the past few months. The reason for this is twofold. In the first place, the Government has taken a hand in the establishment of control over priorities of material. Secondly, merchant ship construction in this country has been falling off rapidly due principally to very high production costs. In the last few weeks following the European crisis, the Government has announced its
decision to press on with rearmament with the utmost dispatch.
The crisis demonstrated that the Royal Navy was the best prepared of the fighting services in this country. Events for the past year, leading up to the crisis, have put a strain on naval resources owing to the necessity of keeping nearly half the main Fleet in the Mediterranean and maintaining a strong squadron in the Far East.

NAVAL PERSONNEL

11. Another vital question arising in connection with rearmament is the supply of trained personnel to man all the new ships. Since the beginning of the rearmament program the personnel of the Royal Navy has been increased by nearly 30,000 officers and men. This large increase is already earmarked for the ships which will be completed during the next two or three years. If the schedule of completion of naval vessels comes anywhere near fulfillment, the year 1940 will see two battleships, three aircraft carriers, fifteen cruisers, and a large number of small craft go into commission. This is a larger number of vessels added to the Navy than in any other year since the Great War. To meet this personnel situation, the Admiralty have so far taken the following steps:

(a) retaining enlisted men who would normally be discharged on pension at the end of 22 years service beyond their retirement periods;

(b) increasing direct entries of skilled men who require shorter training periods than the average.

The second method is hampered to some extent by the large demand for skilled mechanics in the other two Services and in industry.

DOCKYARD PERSONNEL

12. The Navy Estimates (1938) provided for an increase of 1000 men in the force of home dockyards over the 1937 level of 38,000. This is exclusive of so-called "casual" employees.

DEVELOPMENT OF SHORE ESTABLISHMENTS

13. The following important items in regard to the development of shore establishments are noted in the Navy Estimates for 1938. Others of less importance are contained in the same publication under Vote 10. Statements in regard to past and future expenditure indicate progress of the work.
CIYON DISTRICT

New W/T Station - The total estimate for this work was given as £94,000, of which £250,000 is to be spent in the present financial year and the balance later.

CHATHAM DISTRICT

Extension of No. 6 Dock - Total estimate for this work was given as £205,000, of which only £5,000 is to be spent during the fiscal year 1938, the remainder at a later time.

New W/T Station - A total of £3,000 is the estimate for this work, of which £2,000 is to be spent in the present financial year, and £3,000 later.

Torpedo School - A total of £7,800 was estimated for this item, of which £2,000 is to be spent in the present financial year, and £5,800 later.

FISHGUARD

Central Magazine Depot - The total estimate for this work was given as £2,000,000, of which £50,000 is given as probable expenditure to 31 March, 1938, £200,000 for this fiscal year, and the balance later.

GIBRALTAR

Widening of No. 1 Dock - This item bears a total estimate of £450,000, of which £200,000 is given as probable expenditure to 31 March, 1938, £125,000 for this fiscal year, and the balance later. Details of the work involved are given in reference (e).

HOLTON HEATH

New Cordite Factory - This item carries an estimate of £253,700. The work has been under way for some time and the probable expenditures prior to March 31, 1938, have been given as £25,000 with an additional £22,500 to be voted in 1938, and still a further sum of £6,200 for completion of the work. A new rolling house in connection with the cordite factory is provided in the Estimate, at a total of £8,150.

Reference: (The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)
Hong Kong

A new Naval Hospital at a cost of £132,000 estimated is provided for. According to the data disclosed in the Estimates, the work is probably in its early stages as £2,000 only is given as funds to be voted in 1938, with the balance of £130,000 required for completion.

Extension to W/T Station. Provision of masts, etc. Total of £8,000.

Pembroke

The 1938 Estimates provide for a mine depot at Milford Haven at a total estimated cost of £687,000. Of this, £286,000 is expendable to 31 March, 1938, £150,000 is to be voted in 1938, and the balance for completion is £251,000.

Plymouth

The widening of No. 10 drydock is described in reference (e). Total estimated cost - £400,000, of which £60,000 is probable expenditure to 31 March, 1938, with £170,000 to be voted in 1938, and balance subsequently.

Increased depot facilities are to be provided at Ernemouth at a total estimated cost of £700,000, of which sum £253,000 will probably be the expenditure to 31 March, 1938, £280,000 voted in 1938, and the balance of £527,000 later.

Portland

An item for the construction of a Destroyer Jetty to the total amount of £150,000 is contained in the Estimates. Of this, £10,000 is to be voted in 1938, and the balance later.

Portsmouth

A large item for New Electrical Workshops to the total amount of £255,000 is included in the Estimates. Of this, £10,000 is to be voted in 1938, and the balance to follow.

An item of £200,000 for a New Signal School is also worthy of notice. Starting with but £1,000 expendable to 31 March, 1938, and £10,000 to be voted in the financial year 1938, the balance of the work is to come later.
ATTACHÉ'S REPORT

As reported in reference (g), the Keyham Royal Engineering College was abolished and a site secured at Manadon on the outskirts of Plymouth where a new Naval Engineering College is soon to be built.

Boasey District

Under the Dockyard items appears one of £25,000 for Boasey Defense. This is evidently not completed as but £25,000 is to be voted in 1938 with the balance to follow.

An item for the Boys' Training Establishment to the total of £247,000 appears with £25,000 to be expended prior to 31 March, 1938, and balance later. Although not specifically noted, this apparently includes expenditures on the "CALEDONIA" (ex-Majestic).

Sheerness

An Anti-Aircraft Gunnery Training Establishment is allocated £16,000.

Sheffield

A New Gauge Factory at a total of £50,000 is included.

Singapore

The new 1,000-foot graving dock was officially opened on 14 February, 1938. Work on the remaining projects continues. Estimated expenditure to 31 March, 1938, is £2,414,700 out of a total of £2,785,000. The sum of £200,000 is to be voted in 1938 and the balance of £2,570,500 will be required to complete.

A new W/T station at Suara is included at a total estimated cost of £37,000. Probable expenditure to 31 March, 1938, is given as £10,000, with £15,000 to be voted in 1938 and the balance of £12,000 to follow.
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Serial No.
File No.

Source of information

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FLEET AIR ARM

14. Attention is invited to H. A. London Conf. Report No. 884 of 31 August, 1938, from this office, forwarding the Annual Aviation Intelligence Report for 1938, which contains a general report on British aviation and, in tabulated form, other comprehensive aviation data; both of these sections include information on the Fleet Air Arm.

FUEL OIL STORAGE

15. The construction of underground storage for fuel oil, although reported in the previous Annual Report, has not been proceeded with. The recent crisis had the effect of hurrying the final decision. Instead of the 200,000-ton storage mentioned in the preceding report, it is now proposed to supply adequate storage facilities underground in three different localities in the United Kingdom for 1,000,000 tons. This has been reported further in reference (4).

FLEET EXERCISES

16. During the period covered by this report, the schedules of the British Fleet, with the exception of the vessels detailed for the patrol duties in connection with the Nyon Agreement, have not been interfered with to such an extent as they were during the past two years due to the Spanish situation and previously to the Italo-Abyssinian conflict.

Home Fleet Manoeuvres

17. The Home Fleet Tactical Exercises started on 25 October, 1937, while an anchor from the North of England to Portland. Shore-based aircraft were exercised during this trip, in maintaining night contact to permit favorable dispositions of submarines for early morning attack. This exercise was combined with that of the Fleet Air Arm and aircraft from the carriers COURAGEOUS and FURIOUS for action against the shadowing aircraft.

Singapore Manoeuvres

18. These manoeuvres combined land, sea and air forces on a large scale. They started 31 January, 1938, and included the concentration of warships at Singapore for the opening of the 1,000-foot graving dock on 14 February, 1938.
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From X Date 1 Oct., 1938 Serial No. 972 File No. (Refer to O. N. I. Index No. 33, 1938)

Source of information

Subject

Great Britain

(Great Britain reported on)

Reference

An annual report on the annual report date of 1938.

> The annual report for the year 1938 will be greatly expedited if a brief summary of the incident is entered in this space. Mention leading statements, personal, or political names, and the gist of the report.

-21-

Annual Combined Exercises between the Home and Mediterranean Fleets

19. This started 7 March, 1938, and was participated in by all available vessels except those employed in the patrol duties under the French Agreement. These exercises, carried out in the Atlantic, lasted until 18 March, 1938, on which day the Fleets returned to Gibraltar. When the Home Fleet returned north from these manoeuvres, it was tracked and attacked by motor torpedo boats and planes on its way towards the Channel. It was reported that only 12 flying boats actually participated in this exercise.

Manoeuvres of British Home Fleet

20. The King inspected the Fleet on 20 June, 1938, and for three days witnessed demonstrations of torpedo attack and firing on Queen Bess. This was covered in reference (b).

21. The manoeuvres of the Home Fleet were held from 20 to 23 July, 1938. The purpose of these exercises was to ascertain the possibilities of landing troops in hostile territory in the face of aircraft reconnaissance and intervention. The Army, Navy and Air Forces participated. The area involved in invasion exercises included the East Coast of England from the Thames to the Forth. Other operations extended as far north as the Orkneys. The Navy had the role of attempting the invasion and the Coast Defense Forces of repelling them. As in other manoeuvres mentioned above, the Fleet Air Arm was opposed by the R.A.F. Another object of this exercise was to give the Fleet Air Arm and the Coast Defense Forces practice in operations required to repel an invasion. In this connection, it is to be noted that the major responsibility for coast defense rests with the Territorial Army. All the East Coast Stations were fully manned at this time. (See References (1) and (j)).

22. The plans for the Autumn Cruise of the Home Fleet were made public on 25 August, 1938, and vessels started from their various ports on 6 September, 1938. These arrangements were modified as the situation in Europe approached a crisis. Finally, the Fleet left Cromarty on 23 September, 1938, for an unannounced destination, later known to be Scapa Flow. Although press announcements quoting Admiralty sources appeared, stating that the schedule for the Autumn Cruise had nothing to do with the tense European situation, the Home Fleet itself was fully prepared and concentrated in the right place when the crisis came.
23. The Fleet mobilisation proclamations were signed by the King on 28 September, 1938. The first steps for demobilisation of the Reservists were taken on 1 October, 1938, and the Fleet put in at Invergordon on 5 October, 1938. The Autumn Exercises will be resumed according to the plan which was interrupted by the crisis. A description of the mobilisation of the Fleet is given in References (x) and (1).

BRITISH NAVAL ACTIVITIES ABROAD (excluding Manoeuvres)

Spanish Waters

24. During the past year the Royal Navy has maintained a patrol force in Spanish Waters in accordance with the Lyon Agreement. The number of evacuations of refugees has not been as great as it was in the period covered by the preceding Annual Report. The alleged torpedo attack on H.M.S. BADISIK on 4 October, 1937, was investigated by the Admiralty which issued a statement on 8 October, 1937, to the effect that a full investigation had established the fact that a torpedo attack on this vessel had not been made. It is of interest to note that some press comment was inclined to doubt this and to indicate that the Government wished to minimise the incident. On 20 - 22 July, 1938, H.M.S. HERO transferred from Barcelona to Marseilles 28 muns of the Order of the Sacred Heart who arrived in London shortly thereafter.

CONVERSION OF OLDER NAVAL VESSELS

25. The current policy of the Admiralty in regard to the older naval vessels has been indicated in reference (q) in connection with the conversion of "C" and "D" Class cruisers and old destroyers into escort vessels. No old naval vessel which can possibly be adapted for any role other than that for which it was originally intended is to be scrapped. The British naval decision to initiate the convoy system upon the outbreak of hostilities has been announced. The old destroyers and cruisers, together with existing and new sloops, are being fitted with additional anti-aircraft protection. Some of the older cruisers are earmarked for conversion to anti-aircraft vessels similar to the COVENTRY and CURLEW. For convoy escort work, the vessels will be fitted with depth charges, minesweeping gear, and listening devices.
NAVAL LIMITATION TREATIES - ESCALATION

26. The Japanese reply to the Notes of the United States, France and Great Britain, which was received on February 12, 1936, did not allay suspicion that Japan was building battleships over the limit of the London Treaty. Conversations in regard to escalation began in London on 1 March, 1936. The British were reluctant to increase the size of battleships beyond the 55,000-ton limit for several reasons. They had already signed naval limitation treaties with Germany, Russia and Poland, which were based on the London Treaty of 1936. At the time of the escalation talks, the British were negotiating with Norway, Sweden, Denmark and Finland for naval limitation treaties similar to the London Treaty of 1936. Another reason for the British reluctance to escalate was that they had put a great deal of time and money into the development of the designs and actual starting of work on five battleships which were all to be of 55,000-ton displacement and armed with 14-inch guns of recent design. The British were anxious that some upper limit to the size of battleships be fixed in order to preserve the principle of naval limitation by treaty. When the United States announced its desire to have no upper limit, the British expressed the fear that other European countries might depart from their limitation treaties under these conditions. The British therefore welcomed the French announcement that even though other nations might build beyond the 55,000-ton limit, the French Government would not follow suit as long as no other European nation did so.

27. For ready reference, the Protocols, modifying the Naval Limitation Treaties, limiting battleships to 45,000 tons displacement, together with their dates and the dates of the original treaties, are given as follows:

<table>
<thead>
<tr>
<th>Nations</th>
<th>Date of Naval Limitation Treaty</th>
<th>Date of Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>British-German</td>
<td>17 July, 1937</td>
<td>30 June, 1938</td>
</tr>
<tr>
<td>British-Soviet</td>
<td>17 July, 1937</td>
<td>6 July, 1938</td>
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<tr>
<td>British-Polish</td>
<td>27 April, 1938</td>
<td></td>
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<tr>
<td>British-U.S.-France</td>
<td>25 March, 1936</td>
<td>30 June, 1938</td>
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</table>

(London Treaty 1936)
28. The United States finally agreed on fixing an upper limit of 45,000 tons and retaining the 16-inch limit for guns of future battleships. The British press has insisted on British battleships having guns at least as large as those of any other Power, and the result has been that the two battleships of Great Britain provided for in the 1958 Supplementary Estimates will probably be of 40,000 tons displacement and mount 16-inch guns. Recently the names LION and TERRERA have been assigned to these ships.

AUSTRALIA AND NEW ZEALAND - NAVAL DEFENSES

29. In reference (r) was noted the formation of the Southern Pacific Defense Board, upon which the British Government is represented for the Singapore defenses. Press announcements have indicated the proposed building of large numbers of coastal motor boats and the re-introduction of submarines into the Royal Australian Navy. From June to September, 1958, the four vessels of the New Zealand Station, ACHILLES, LEANDER, LEITH and WELLINGTON, cruised among the Pacific Islands and territories mandated to the Dominion.

COMFORT IN BRITISH NAVY

30. There is a distinct tendency in the British Navy to improve the comfort of men afloat. This was noted particularly in the inspection of H.M.S. MAIDSTONE in which ease a great deal of publicity was given to this matter when the vessel went into commission. Sound moving picture installations have been initiated for all British warships except the smaller ones and submarines. Attention is invited to reference (e).

NAMES FOR NEW BRITISH NAVAL VESSELS

31. The names assigned to all the naval vessels in the 1958 Supplementary Estimates were forwarded to the Department with reference (f).

INCREASES OF WAGES OF DOCKYARD EMPLOYEES

32. The wages of British dockyard employees, both at home and abroad, have been on the increase during the past year. This matter has been the subject of a number of reports to the Department, the most recent of which was reference (a) which carries a list of other references on the subject.
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Serial No.: 972
File No.: [Blank]

Source of information: [Blank]
Subject: GREAT BRITAIN (Nations reported on)
(Index title as per index sheet)

Reference: [Blank]

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GENERAL

Accidents

33. Accidents to British Naval Vessels for the period of this report are as follows:

H.M.S. GLASGOW, grounding on Sandbank in Weymouth Bay - 20 October, 1937
H.M.S. ACHERON, collision with barge in Portsmouth Harbor - 1 November, 1937
H.M.S. ORION, slight collision at New Orleans - (on or about 20 December, 1937)
H.M.S. BIRMINGHAM, fire in seaplane hangar in Portsmouth Dockyard - 3 January, 1938
H.M.S. HAZARD, collided with breakwater, (superficial), Portland Harbor - 27 January, 1938
H.M.S. WALKER, driven ashore near Scarborough - 12 February, 1938 (total loss but guns and equipment salvaged)

British Naval Mission to Portugal

34. The visit of the British Naval Mission to Portugal was reported in reference (n) in which it was stated that there was a possibility of the Portuguese Government's placing naval contracts in Great Britain. At the present time, this office has no information indicating that this has been done or will be done in the near future.

Turkish Naval Mission to Great Britain

35. References (o) and (p) reported this item. The Anglo-Turkish Agreement Bill, for the purpose of giving armament credits to Turkey, was signed on 27 May, 1938. Nothing has been noted of any Naval items yet furnished under the British loan to Turkey of £6,000,000. Mention is made of this here, however, because the agreement makes it possible to include Naval equipment manufactured in Great Britain for Turkey.
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From

Date

1 Oct., 19...

Serial No.

972

File No.

Source of information

SUBJECT

GREAT BRITAIN

Reference

"Caledonia" (ex-Majestic)

36. The personnel strength of this Boys Training Establishment, as given in Parliamentary Debates of 29 July, 1938, was 846 Staff and 1788 Boys and Apprentices under training. The estimated cost of training was given as approximately £151 per head per year.

Future New Naval Construction

37. No information has been issued by the Admiralty regarding future new construction to be included in the 1939 Estimates. There have been rumors in the press, however, that no fewer than three new battleships are expected to be included in next year's program.
<table>
<thead>
<tr>
<th>Name and Class</th>
<th>Builder</th>
<th>Program (e - Est.)</th>
<th>Ordered</th>
<th>Keel Laid</th>
<th>Launched</th>
<th>Date of completion</th>
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<tr>
<td><strong>Battleships</strong></td>
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<tr>
<td>PRINCE OF WALES</td>
<td>Cammell Laird &amp; Co., Birkenhead</td>
<td>1936</td>
<td>35,000</td>
<td>July 1936</td>
<td>Jan. 1937</td>
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<tr>
<td>ANSON</td>
<td>John Brown &amp; Co., Clydebank</td>
<td>1937</td>
<td>35,000</td>
<td>Apr. 1937</td>
<td>May 1937</td>
<td></td>
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<tr>
<td>JELLYCOE</td>
<td>Swan, Hunter &amp; Wigham Richardson, Wallsend</td>
<td>1937</td>
<td>35,000</td>
<td>Apr. 1937</td>
<td>July 1937</td>
<td></td>
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<tr>
<td>BEATTY</td>
<td>Fairfield S.B. &amp; Engr'g Co., Govan</td>
<td>1937</td>
<td>35,000</td>
<td>Apr. 1937</td>
<td>June 1937</td>
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<tr>
<td>LION</td>
<td>Laird &amp; Co., Birkenhead</td>
<td>1938</td>
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<td>TERNERAIRE</td>
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<td><strong>Cruisers</strong></td>
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<tr>
<td>HUNYALUS</td>
<td>Chatham Dockyard</td>
<td>1936</td>
<td>5,450</td>
<td>Mar. 1937</td>
<td>Oct. 1937</td>
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<td>PHOENIX</td>
<td>Fairfield S.B. &amp; Engr'g Co., Govan</td>
<td>1936</td>
<td>5,450</td>
<td>Mar. 1937</td>
<td>Sept. 1937</td>
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<td>ZIRIUS</td>
<td>Portsmouth Dockyard</td>
<td>1936</td>
<td>5,450</td>
<td>Mar. 1937</td>
<td>Apr. 1938</td>
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<tr>
<td>FIJI</td>
<td>John Brown &amp; Co., Clydebank</td>
<td>1936</td>
<td>8,000</td>
<td>Dec. 1937</td>
<td>Mar. 1938</td>
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<tr>
<td>KENYA</td>
<td>A. Stephens &amp; Sons, Govan</td>
<td>1937</td>
<td>8,000</td>
<td>Dec. 1937</td>
<td>June 1938</td>
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<td>MAURITIUS</td>
<td>Swan, Hunter &amp; Wigham Richardson, Wallsend</td>
<td>1937</td>
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<td>Mar. 1938</td>
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<td>NIGERIA</td>
<td>Vickers-Armstrongs, Walker</td>
<td>1937</td>
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<td>TRINIDAD</td>
<td>Devonport Dockyard</td>
<td>1937</td>
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<td>Dec. 1937</td>
<td>Apr. 1938</td>
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<tr>
<td>BONAVENTURE</td>
<td>Scott S.B. &amp; Engr'g Co., Greenock</td>
<td>1938</td>
<td>5,450</td>
<td>Mar. 1937</td>
<td>Aug. 1938</td>
<td></td>
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<tr>
<td>CYPRIOT</td>
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<td>JAMAICA</td>
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<tr>
<td>GAMBIA</td>
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## British Naval Building Program

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### BRITISH NAVAL BUILDING PROGRAM

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## BRITISH NAVAL BUILDING PROGRAM

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<td>Aug.1938</td>
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<td>British Power Boat Co., Southampton</td>
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<td>Fleet Air Arm Supply &amp; Repair Ship</td>
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## APPENDIX II

VESSELS COMPLETED FROM OCTOBER 1, 1937 TO SEPTEMBER 30, 1938

<table>
<thead>
<tr>
<th>Name and Class</th>
<th>Program</th>
<th>Displacement</th>
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### APPENDIX II - page 2

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<td>June 1938</td>
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<td>1936</td>
<td>903</td>
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<td>Mar. 1938</td>
<td>1938</td>
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</tbody>
</table>
ATTACHE'S REPORT

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From I
Date 14 Oct., 1938
Serial No. 969
File No. (Receive new series each January first)

Source of information Press and Admiralty.

Subject GREAT BRITAIN NAVY (Station reported on)

Mobilization Fleet Mobilization

Reference


1. Reference (a) described the four proclamations signed by the King on 28 September, 1938, for the mobilization of the British Fleet. Actually, the only group of reservists ordered to proceed to their mobilization stations was that containing men of Class "B" of the Royal Fleet Reserve. All other reservists and pensioners were instructed to await further individual orders or public notices before reporting. As it happened, none of these classes was required to report for actual duty.

2. It is the purpose of this report to describe in more detail than reference (a) what actually happened in the few days between the Fleet mobilization proclamations mentioned above and the first steps of demobilization of the reservists which started on 1 October 1938. A brief outline of British Naval proceedings in commissioning vessels laid up in Reserve is here given, as it is closely connected to this subject. It is further desired to explain herein the methods of calling up and handling other classes of reservists which would have been followed if the mobilization of the Fleet had been completed. In recent conversation with an officer in the Admiralty it was learned that they do not consider that the Fleet was fully mobilized.

3. Although the British Navy is still mobilized, the process of restoring it to a peace-time basis has begun. With the exception of a partial test of preparedness in 1922 when minesweeping flotillas and some other small craft were put on a war basis, no general mobilization of the Fleet has been held since 1914.

4. From all accounts, the arrangements for the expedient expansion of the Naval personnel have worked very well. In less than three days after the issue of the mobilization proclamations, 29,000 Reservists were absorbed, by the mobilization stations and the Fleet. All of these men upon joining their stations were provided with full kits and all arrangements were made for paying and feeding them. The clearing houses for this large number of men were Portsmouth, Devonport, and Chatham. It has been estimated that the average time required for a man to present his papers, have the physical examination, be fitted with a gas mask, draw his bedding, complete his outfit, and draw pay due him was only fifty minutes.

5. The item of transportation of the men from their homes to the places where they reported was handled with preci...
Southern Railway came in for special praise from the Admiralty for the efficiency with which it dealt with large bodies of men at short notice.

6. The improvement in the situation after the Munich Agreement made it possible for the Admiralty to grant leave to 6,000 men on the second night after mobilization. This leave granted to the Reservists in the mobilization towns was, according to the press, particularly free from rowdism and breaches of discipline. Prompt reporting for duty was a feature in almost every case.

7. Although not affected by the mobilization orders actually put into effect, hundreds of retired officers wrote to the Admiralty to offer their services in any capacity. From what is known few if any of these offers were accepted. The procedure under which these officers would have been recalled to active duty is described later in this report.

8. During the period in which the Fleet remains mobilized all specialist training, such as gunnery, torpedo, etc., is suspended because the officers and men utilized as instructors are afloat. Recruiting, however, which upon mobilization was suspended, was resumed on 11 October 1938. It is of interest to note that suggestions to the effect that subsidiary mobilization centers be established, especially in the northern part of England and Scotland, were not approved in official circles. The reason given for this is that in normal times such centers are used mainly for instructional purposes and the expense of duplicating them would be prohibitive and at the same time unnecessary.

9. The Reserve Fleet was put into commission and work on the vessels speeded to get them on a seagoing basis. It has recently been ascertained from the Admiralty that their policy in regard to ships in reserve has been directed towards rotation in the various priorities of the vessels in reserve. With the large amount of new construction which was occupying dockyard facilities to a very great extent together with overhauls of active vessels, it has not been possible to bring up the priorities of vessels requiring much work.

10. The status of priorities of vessels in reserve and the percentages of their crews which are carried was given in reference (b). This still is in effect and was verified in the Admiralty on 10 October, 1938. As much work of reinstallation of outfit as possible is done by the skeleton crews of the ships in reserve. Work beyond their capability is undertaken by the dockyard forces, but no separate dockyard "Care and Preservation" force is
maintained as such. For high priority reserve vessels the reduced crew live and mess aboard their ships, but for those of low priority the crews are quartered elsewhere in the yards or in nearby vicinity. The times for reserve ships to be ready for sea are rigidly adhered to and the priorities are altered as soon as the length of time to accomplish work is known.

11. Skeleton crews on reserve vessels are augmented by the Reserve Fleet Supplementary Parties, which are composed of retired enlisted men and warrant officers. These parties are assigned to definite vessels and aid the reduced complements in care and maintenance work. By this means a reserve vessel going into full commission has immediately a fair-sized crew accustomed to the ship, with the consequent reduction in time required for the ship to be able to operate effectively at sea. The balance of men to complete the crews are taken from the reserves who are experienced men in most cases but not necessarily conversant with the particular ship to which they are assigned.

12. It has been ascertained from the Admiralty that small vessels in a reserve status (such as destroyers and sloops) are loaded after in groups and larger units by their own skeleton crews. For a cruiser, for example, at Standard Notice (14 days) the following officers would permanently be attached to the vessel with about 10-15% complement:

1 Commander
1 Lt. Commander
1 Engineer (Lt. Commander (E))
1 Warrant Gunner
1 Warrant Engineer.

13. Vessels in a reserve status are not used for reserve training cruises, although it is hoped that they may do so some day. These vessels are in some cases, however, used to quarter boys and rated men.

14. Other items regarding reserve vessels which were recently ascertained from the Admiralty are:

(a) Dry docking periods for vessels in reserve are at twelve month intervals. (No reserve ships are moored in fresh or nearly fresh water.)

(b) Shakedown cruises for vessels placed in commission from a reserve status are generally:
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From X Date 14 Oct., 1938 Serial No. 969 File No. (Commences new series each January first)

Source of information

Subject GREAT BRITAIN NAVY Fleet Mobilization

Reference

Four.—(The review, indexing, and distribution of reports by O. N. I. will be greatly simplified if a brief summary of the contents is entered in this space. Mentioning geographical, personal, or political names, and the gist of the report.)

-4-

(1) Large vessels and cruisers .... 3 weeks.
(2) Small vessels ................. 2 weeks.

15. Passing now to the third and last part of this report, a brief outline will now be given of the steps that would have been followed by the Royal Navy in calling out all other classes of reservists if full mobilization of the Fleet had taken place.

16. Retired officers would have been recalled to active duty by individual orders issued by the Admiralty.

17. The enlisted ratings of the Reserves normally report at Royal Naval Barracks, Portsmouth, Chatham, or Devonport, and Marines at Royal Marine Headquarters at one or the other of these ports unless they have had specific orders to the contrary. For example, submarine men are ordered to report at Fort Blockhouse, Gosport, the headquarters of the submarine service.

18. After the men arrive they go through the steps mentioned in Par. 4 above, upon completion of which they are drafted to ships or port stations, as required. Those proved unfit physically are discharged and sent back to their homes, with a certificate and railway pass, being paid for the number of days they have been detained. They are also reimbursed any traveling expenses and subsistence that may have been incurred, all at a standard rate.

19. Pensioners and other Fleet Reservists are called up individually through the mails. These men receive a form, which in peace times is always kept ready and up to date in its envelope. This gives the men full instructions how to report for duty and where. Like the Class "B" Reservists, this form for pensioners and other Fleet Reservists carries a detachable warrant to their certificate of identity. Summons to report are sent out in batches in such numbers as requirements necessitate, so that there will not be confusion at the barracks when they all report.

20. A clothing gratuity is granted, but those who have kits are supposed to bring them along. Others may be supplied with emergency kits at the barracks upon reporting, which are completed to full kits on board the individual ships as the opportunity offers.

21. A different machinery is used in calling up the Royal Naval Reserve, which is composed of merchant navy personnel. On the issue of the Royal Proclamation the Registrar General of Shipping and Seamen, who is an official under the Board of Trade with his office on Tower Hill, instructs all shipping companies to ad-
vise him of the whereabouts of any R.N.R. officers in their employ. The Admiral Commanding Reserves informs the Registrar General how many officers are wanted at each port and the necessary number of officers are instructed accordingly. The R.N.R. enlisted ratings are called up in periods. At each seaport a local registrar keeps a list of men registered in that port. These men get individual letters and also get information in addition to these by the method of posters or notices which are displayed around the town notifying them which period or periods are required for service. The men then present themselves to their local registrar, who is entirely responsible for transporting them to the depot at the home port to which they are affiliated.

22. When each group of men starts on its journey a telegram is sent to the depot concerned and upon their arrival they are given an emergency kit either in full or part. which with them.

23. Certain men are specially detailed for boom defense work or patrol service, and these are sent to their respective depots by the registrars, who are Board of Trade officials.

24. In the case of the Royal Naval Volunteer Reserve, which is composed of civilians who have volunteered to undergo Naval training in their spare time, full particulars of the men in each division are forwarded every month to the Drafting Commander of the Royal Naval Barracks at the home port to which the division is affiliated. These Royal Naval Volunteer Reserve men are the counterpart of the Army’s “Territorials”.

25. There are now eight divisions of the R.N.V.R. in this country, in the following locations:—

London Ulster
Sussex East Scottish, and
Severn Tyne
Mersey
Clyde

26. In addition to these, in the overseas organization are the Royal Australian and Royal Canadian Naval Volunteer Reserve, as well as those in New Zealand, South Africa, Hong Kong, Kenya, and Straits Settlements. The arrangement on mobilization is that the Drafting Commander at each home port depot sends out individual summonses to men of the R.N.V.R. exactly as is done in the case of pensioners, but the R.N.V.R. enlisted ratings are ordered to report to their own local headquarters, which is responsible for giving
ATTACHÉ'S REPORT

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From I Date 14 Oct., 1938 Serial No. 969 File No.

Source of information

Subject GREAT BRITAIN NAVY Fleet Mobilization

Reference

Math—(The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

them the necessary kits and sending them to the depot.

27. It is estimated that had the original orders held good, the personnel of the Navy would have risen in the week ending 4 October, 1938, to a figure approaching 200,000.

28. The movements of the Home Fleet from the time of its return to Cromarty Firth on 24 September, 1938, were not dissolved until 7 October, 1938, when it returned to Invergordon on 6 October, 1938, to resume the autumn training program which was interrupted by the emergency. Actually the Home Fleet was based on Scapa Flow for this period.
ATTACHÉ'S REPORT

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From X Date 17 Oct., 1938 Serial No. 970 File No. (Passport number and second copy will be used for O. N. I. Index)


Subject: GREAT BRITAIN WAR PREPARATIONS during recent crisis

Reference:

Emphasis—(The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the report is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

EMERGENCY PREPARATIONS FOR WAR DURING RECENT CRISIS


Enclosure: (A) Newspaper Clippings.

1. A brief description of the mobilization of the British Fleet, announced late on the night of 27 September 1938, was forwarded as reference (a). A more detailed report was submitted as reference (b).

2. The purpose of this report is to give the principal emergency measures other than Naval which were taken by the British Government, and to show their effect on the whole community immediately preceding and during the crisis from 20 September to 1 October 1938.

3. All the emergency activities except those of a purely military character came under the control of the Air Raid Precautions Committee (A.R.P.), which is in turn directly under the Home Office. The military defense measures such as mobile anti-aircraft batteries, balloon barrage, listening and searchlight units, were entirely handled by the Territorial Army under the War Office. As only a portion of the Territorials were called up for this work, it is not known how many more men and what additional equipment are available from this source.

4. The announced danger zone in the vicinity of London was defined by the A.R.P. as a circle of 15 miles radius, with its center at Charing Cross and a band to the eastward 10 miles wide running from this circle to the mouth of the Thames.

5. For several weeks prior to 20 September, the police, and radio broadcasts, announced the increase in preparations of the A.R.P., the work of which has been progressing slowly for many months. From the beginning of September the activities were speeded up, and on the 20th of September and following days press, radio, and poster announcements were issued by the A.R.P., informing all people to go to the polling places nearest their residences in order to be fitted for gas masks. Three sizes, large, medium, and small, were available at these stations for purposes of trying on only. The masks were not issued at the time, but after trying on, each person was given a card indicating his size. These cards had next to
be presented at issuing stations, which might or might not be the same places as those where the fittings were undertaken.

HOSPITALS.

6. Evacuation of all hospital cases which could be moved outside the danger zone had been proceeding to some extent before 20 September, but from that date on there was much more activity in this respect.

GAS MASKS - WARNINGS TO EVACUATE.

7. On 26 September gas masks were issued free, all over London and vicinity. The following morning A.R.P. volunteers going from door to door warned all people who could possibly do so to leave London immediately. Preparations were made for the evacuation of school children and adults and the closing of schools.

EVACUATION MEASURES.

8. On the 28th of September radio and press announcements gave the methods of evacuation of children and adults. The plan for children was that they should be evacuated by school units, no parents being allowed to accompany them. The instructions stated that each child was to be supplied from home with warm clothing when sent to school and a mackintosh and some food for the trip. The units were to go by train from London on various routes and be disembarked along the line according to the records of space available for billets in private homes. It was stated that families could not initially be informed of the locations in which the children were to be disembarked, but would be as soon as committees could be formed to act as clearing houses for information of that kind.

9. It was contemplated that no fewer than 2 million persons would take part in this voluntary exodus from London. These would be spread over an area between between 50 and 50 miles outside the metropolis. The scheme was not fully put into effect but the plans were ready, and actually many thousand school children were evacuated.

10. The press has carried much in regard to the general method of evacuation in populous areas. The departure of the large number of people would not be a sortie en masse, but a self-marched procession on predetermined lines. Each refugee was to go to the London Transport Board stations or to specified main line railroad stations and there find a train to take him to a safer range.
The destination was not to be made known in advance, but the trains rather than individuals would be despatched to places or areas in which there would be accommodation.

11. Compulsory powers were to be obtained to enable the billeting officers at certain points to require householders to receive refugees up to the limit of one person for each habitable room in the house. The householders were to be required to supply shelter and access to water and sanitary services and facilities for cooking. Plans for the feeding of refugees were broadcast by radio on the evening of 28 September. The refugees were to draw a two-days ration of food at the rail-head which, together with the transportation, would be free. After that, the refugees would have to buy their own food, and those lacking the means would be able to draw money from the nearest Employment Exchange. Householders taking in refugees were to be paid by the Government.

ANTI-AIRCRAFT BATTERIES.

12. During the period 20 - 28 September, three mobile anti-aircraft batteries were observed placed in the following locations: Hyde Park, vicinity of Waterloo Bridge, and Hampstead Heath. In Hyde Park there was a battery of four anti-aircraft guns which appeared to be of 5" caliber. In the vicinity of Waterloo Bridge one of these guns was noted, and on Hampstead Heath three. The approach of individuals within 300 yards of these batteries was prevented by picket lines patrolled by armed territorial soldiers in steel helmets, so that a close observation of the guns was not possible. In fact, it is probable that there were additional anti-aircraft guns of this size in Hampstead Heath that were not seen. On the picket lines were posted warnings that cameras if used and spotted would be confiscated. Fixed ammunition in boxes was laid out in the vicinity of these guns and sandbags were piled to a height of about 5 ft. around them. Only a few scattered machine-gun units were observed in London. A few search-light and listening units completed these preparations. In general, the impression gained was the conspicuous shortage of anti-aircraft batteries in London, although according to the press not all of the territorial anti-aircraft units were called out.

BALLOON BARRAGE.

13. During 20 - 28 September balloon barrages were also established in the parks, with all the incidental paraphernalia such as balloon sandbags, trucks with winches, and trucks loaded with hydrogen flasks for inflating the balloons. These flasks were
ATTACHE’S REPORT

Forward seven copies (original and six carbon) of this report required for the limited personnel in O. N. I. and because of the urgency of the report, it will be issued in an express bundle with the press. These copies will be distributed by O. N. I. as per notices or otherwise, according to subject matter.

From: [Name]
To: [Name]
Date: 17-Oct-39
Serial No.: 270
File No.: [Number]

Subject: GREAT BRITAIN WAR PREPARATIONS DURING G. Crisis

Reference: [Footnote]

14. During the critical period extensive trench digging was started throughout England. In all the large parks in London the work was carried on with the utmost speed both day and night. Large numbers of men were employed. The trenches were approximately 6 ft. deep, by 50 ft. long, by 5 ft. wide, with earth piled up to a height of about 6 or 7 ft. on either side. After the immediate crisis was past the work on the trenches was still pursued, although it was noted that fewer men were employed. Upright wooden timbers of about 5 x 6 in. section were installed vertically along the inside of each trench, and horizontal planking nailed to these uprights. In some cases, it was noted, the trenches had wooden tops, and in others corrugated sheet iron. The question of what to do with these trenches is still under discussion. There has been some mention in the press of keeping these trenches and of the desirability of piling the earth from the side banks on top of the covers and relaying the grass to improve the appearance. It has been observed that none of the wood used in these trenches was impregnated to resist moisture. Attention is invited to a sketch and picture of the trench construction appearing in the enclosed newspaper clippings.

AMERICAN EMBASSY.

15. In connection with preparations in our Embassy, the Office of the Naval Attache cooperated in measures taken for the protection of personnel and the building from air bombing and gas attack. The details of this work have been given in reference (a).
Typical Precautions for Office Buildings.

16. On 23 September representatives of our Embassy inspected the building of the Ministry of Public Health in central London to ascertain the system instituted there for precautions against air raid and gas attack. The Ministry of Public Health Building is a large brick and stone structure in which normally there are about 4,000 civilians. The preparations were as follows:

(a) Having wardens stationed on all floors to control passageways and stairs and keep the crowds from blocking them on their way to the shelters in the basement of the building.

(b) Posting on walls and doors large arrows and placards indicating directions and routes to be followed to the basement shelters.

(c) Establishment of first-aid, fire and rescue, and decontamination parties and stations.

(d) Establishment of telephone systems independent of the regularly installed lines in the building, for communication purposes throughout the building. These converged in the central control station in the basement.

(e) Acquisition of all materials for the parties mentioned in (c) above.

(f) Instruction in first-aid for men and women.

(g) The furnishing of a gas mask to each individual. Gas masks were required to be taken by individuals when leaving their offices to go to other offices in the building. The routings taken were to be followed from the locations where the individuals found themselves at the time of the alarm. This was done to prevent confusion by individuals attempting to return to their own rooms to get gas masks before proceeding to basement shelters.

(h) A previously unannounced drill demonstrated that everybody could get to the shelters, with necessary guards and patrols stationed, in five minutes.

(i) Bells and whistles were used for alarm purposes in the building. These were to be sounded and blown when the outside air raid sirens announced the approach of a air-raid.
(j) Necessary sealing operations against gas.

EXPENSES FOR AIR RAID PRECAUTIONS.

17. The enormous expenditures for the preparations described herein, quoted chiefly from the press, are given below. A representative article from the press is quoted in part:

"Within the few crisis days of intense activity the Air Raid Precautions Department of the Home Office sanctioned the spending of something like £13,000,000 - equal to the whole of the amount budgeted for the financial year not only for Home Office defence measures but also for those planned by local authorities.

"Local authorities are demanding that the government shall pay the whole of the expenditure during the past ten days. Many districts, it is urged, will be wholly unable to meet the bill from the rates.

"No decision was taken by an A.R.P. conference at the Home Office yesterday (3 Oct.) concerning the steps likely to be taken soon to build permanent air raid shelters.

"New instructions were issued to local authorities, however, concerning the maintenance of trenches dug last week. They were told that no fresh ground should be broken."

18. The most expensive A.R.P. item was the supply free of charge and the distribution of gas masks. At least 40 million were sent to local authorities and issued to the public. Each gas mask cost the Government 2 shillings 6 pence, a total of £5,000,000. The gas masks issued to air-raid volunteers, police, and other services were of a more substantial construction and of longer life than the type issued to the average civilian, so that the above figure will probably be increased to £2,250,000. The cost of distribution, gasoline for transportation, rail, and other indirect charges are not included in these figures. The press recently announced that the ownership of the gas masks rested in the civilian population and not with the Home Office. No preparations have therefore been made to return them for proper storage, and it has been noted that civilians in some cases have put them up for sale in the market. At present there seems to be no definite policy on..."
ATTACHÉ'S REPORT

From: [Name]
Date: 17 Oct., 1939
Serial No.: 970
File No.: [File Number]

Source of information

Subject: GREAT BRITAIN
WAR PREPARATIONS Emergency prepared.
(Nation reported on)

Reference

Date: (The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is inserted in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

7-

this subject. In some communities the masks have been collected by the A.R.P., in others, cardboard boxes have been issued to the inhabitants in which they may store their own masks, and in other cases placards have been posted warning people that the masks are fragile and should be properly looked after.

19. The local authorities, during the days of what might almost be termed a near panic, received orders from the Home Office which virtually allowed them a free hand in the expenditures on defense measures. Many of these local authorities incurred large liabilities and placed huge orders for fire-fighting equipment and public shelters without receiving preliminary estimates. This statement has been noted in several newspapers of repute, and the estimates for these expenditures has been given as about £4,000,000 in the last few weeks. From a reliable source comes the following specific example of how the Government stamped at the last minute. It was stated that one large company received from the Government by telephone a £200,000 order for fire-fighting equipment which had been pending for months.

20. The digging of trenches is estimated to have cost about £2,000,000. At the time of this writing no ground is being broken, but work is still continuing to a small extent. The press has stated that at least 100,000 workmen have been employed throughout the country on the trenches, and that timber for these has cost about £1,200,000.

21. According to press reports, at least 100 million sand bags have been distributed by the Home Office to local authorities. The cost of these, including the purchase of sand, and labor for filling the bags, is estimated at £3,000,000.

22. Other items of expense have been for millions of posters and hand bills, which cost the Government about £250,000. The Government's bill for emergency printing orders is not included in this figure.

23. The preliminary steps for the evacuation of the children and adults mentioned in the foregoing has cost the Government a large sum of money which has not yet been determined.

24. Another item of heavy expense has been the precautions taken by the gas, water, and electricity utilities. The press has estimated that for the last two weeks alone these precautions are believed to have cost in the neighborhood of £1,000,000.
25. The foregoing figures do not include the expenses incidental to mobilization of the armed forces. For ready reference, the following table summarizes the above and includes them:

<table>
<thead>
<tr>
<th>The Services</th>
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<tbody>
<tr>
<td><strong>£</strong></td>
</tr>
<tr>
<td>Admiralty (Mobilization of the Navy, etc.)</td>
</tr>
<tr>
<td>War Office (Troop movements, partial calling up of Territorials, manning of anti-aircraft units, organizing Women Territorials, etc.)</td>
</tr>
<tr>
<td>Air Ministry</td>
</tr>
<tr>
<td><strong>Air Raid Precautions</strong></td>
</tr>
<tr>
<td>Respirators (40,000,000 at £2.6s.6d. ea. issued to the civilian population)</td>
</tr>
<tr>
<td>Respirators (issued to volunteers, police and other services)</td>
</tr>
<tr>
<td>Trench-digging tenders to contractors (at least 100,000 workers have been employed throughout the country)</td>
</tr>
<tr>
<td>Timber for strengthening trenches</td>
</tr>
<tr>
<td>Sandbags (100,000,000 have been distributed by the Home Office to local authorities - cost, including purchase of sand, local labor employed filling them, etc.)</td>
</tr>
<tr>
<td>Posters and handbills (including Government’s bill for emergency printing orders)</td>
</tr>
<tr>
<td><strong>London County Council</strong></td>
</tr>
<tr>
<td>Hospital re-equipment (placing the hospital stores on a war-time basis)</td>
</tr>
<tr>
<td><strong>Other Authorities</strong></td>
</tr>
<tr>
<td>Precautions taken by gas, water and electricity undertakings</td>
</tr>
<tr>
<td>Cost to local authorities of supplementing fire-fighting appliances and on public defense measures</td>
</tr>
<tr>
<td>Loss of trade to retail distributors</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

26. In addition to the foregoing, it is to be noted that normal business all over the country and particularly in London was practically at a standstill for several days during the crisis.

\[\text{Reference} \]

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**Notes**
- The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.
- Source: The Intelligence Division, Office of Chief of Naval Operations, Navy Department (O. N. I.)
- Report number: 970
- Date: October 27, 1938
- Page: 2

\[
\begin{array}{cccc}
\text{A.S.C. & C.} & \text{D. L. & E.} & \text{E. & B.} & \text{B. & E.} \\
\text{1. & 11.} & \text{2. & 21.} & \text{3. & 31.} & \text{4. & 41.} \\
\text{12. & 121.} & \text{212. & 2121.} & \text{313. & 3131.} & \text{414. & 4141.} \\
\text{123. & 1231.} & \text{2123. & 21231.} & \text{3123. & 31231.} & \text{4123. & 41231.} \\
\end{array}
\]

**Legend**
- A.S.C.: Air Service Command
- C. & D.: Civilian & Military
- D. & L.: Delegates
- E. & B.: Emissaries
- 12, 21, 31, 41: Districts
- 121, 212, 312, 412: Subdistricts
- 123, 1231, 2123, 3123: Branches
- 1231, 21231, 31231, 41231: Sections
- W.F.P.: War Force Personnel
- Cons.: Consular
- U.S. M.C.: U.S. Military Codeword
- H.O.: Headquarters Office
- Use forms for all copies. Use only forms as supplied by O. N. I. Make all sketches, etc., uniform in size with this form where practical. Submit entire copy of ciphers, carbon of sketches, etc., with each report. If premature, submit sketches in suitable forms for blueprinting or photostating.
From a reliable source it is known that enormous purchases of food, steel, and vehicles were made by the Government which amounted to over £10,000,000, an item not mentioned in the press or included in the foregoing list.

27. Another effect of the crisis was to bring to a decision the long-debated and often delayed project of underground fuel storage. A report of this was submitted by the Naval Attaché in Reference (c). It may be noted here, however, that the original plan which called for storage underground for 600,000 tons of fuel oil is now to be increased to 1,000,000 tons.

28. The crisis caused the rate of exchange to drop to 4.62, and the Stock Market to fall. From reliable information, brokers are still advising their clients to invest in American securities because no rise in the London market is probable, at least for a considerable time.

29. A reliable source has informed this office that he knew of one Reserve British Army officer whose mobilization station was Abyssinia and deduced that the British possibly had designs on that country in the event of Italy's coming into a war. According to the same source, about 16 September 1938 a meeting of newspaper executives was held in London. All agreed to support the Government, with the exception of Sir W. Layton ("News Chronicle" and "Economist").

CONCLUSION.

30. With all this expenditure, it is thought that the precautions still leave much to be desired. The shortage of mobile anti-aircraft batteries in London, the inadequacy of air-raid shelters, the shortage of balloon barrage units and personnel to operate them have all been strikingly apparent, although the full number of Territorial units was not mobilized. Whether or not London would have been subject to an early surprise bombing of a large attacking group is a question. One thing that seems certain, however, is that the recent experience has disclosed not only the great lack of preparedness but also the great fear of the Government of such an attack.
ISSUED BY THE INTELLIGENCE DIVISION, OFFICE OF CHIEF OF NAVAL OPERATIONS, NAVY DEPARTMENT

ATTACHÉ'S REPORT 13908-d (c.10.6)

Forward seven copies (original and six carbon); this number is necessary because of the limited personnel in O. N. I. and because the urgency for quickly disseminating information in such a case. These copies will be distributed by O. N. I. as per addresses or locations, according to subject matter.

From XXX Date 19 Oct., 1938 Serial No. 973 File No.

Source of Information: Personal observation & press

Subject: GREAT BRITAIN REARMAMENT FOR DEFENSE CRISIS ON REARMAMENT PLANS

Effect of Gt.

Reference

Note: The report, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.

Date: 29 Oct. 1938

EFFECT OF THE CZECHOSLOVAKIAN CRISIS ON PLANS FOR REARMAMENT IN GREAT BRITAIN


Enclosure: (A) Various Newspaper Clippings.

1. Reference (a) is a report on the chronology of events during the Czechoslovakian crisis, with particular reference to the activities of this office. Reference (b) contains a report of the resignation of the First Lord of the Admiralty, Mr. Duff Cooper, with pertinent comments thereon. Reference (c) is another report concerning the Czechoslovakian crisis, with reference to Naval mobilization. Reference (d) is a report of various emergency war preparations during the recent crisis. The report herewith is a discussion of the reactions to the crisis and its manner of settlement; as made evident in the Parliamentary Debates and press and other comment, and contains some further probabilities and possibilities as to the future attitude and activities of Great Britain regarding rearmament.

2. Beginning on Monday October 3rd, there were four days of Debates in Parliament on the subject of the Munich Agreement and its effect on Great Britain's future. The Prime Minister received the expressed appreciation of all parties for the extraordinary energy with which he had pursued and obtained a peaceful settlement. However, many doubts were expressed as to the wisdom of the settlement, and there was a general feeling of foreboding lest the result may be only a postponement of a ghastly war, and lest the eventual price to be paid may be far greater than might have been required as the result of more vigorous methods during the period of the crisis. The general opinion was also expressed by friends, critics, and opponents of the Government that far greater efforts than those of the past will be necessary in preparing Great Britain to withstand demands that may be expected in the future. This has particular reference to increased armaments, but it is also stated frequently that the organization of the government and of industry will probably require alteration in order to realize not only the necessary enormous increases in armaments, but also the maximum defense benefits of an organized national effort.
3. As regards this point, the Prime Minister has stated that no form of conscription will be adopted by the present Government. There have been suggestions, however, that a national registration might be one acceptable step toward national unity. There have also been numerous statements to the effect that the increased production which will be demanded will not be possible unless it is pursued without the handicap of party differences.

4. The general feeling is very well expressed in a vigorous article by the editor of "The Sunday Observer" for 9 October. In this article Mr. Garvin states:

"Nothing dims the moral glory of the Prime Minister's achievement in saving the peace of the world and the Czechs themselves from worse; but nothing neither diminishes the gravity of those reflections on the future of honour and security which dominated last week's debate in both Houses. Those thoughts and urgings, and those alone, transcended all parties and sections. The same strain ran through the admissions and assurances of Ministers themselves. Let there be no mistake that equal defence, and nothing less, by special measures in the coming months, is the task on which every other chance of future peace with honour will depend.

"Without that the new visions of optimism would be likely to end in a dreary disappointment. Yet they could be realized to the full if the democracies aroused themselves at last to the capacity for equal sacrifice, organisation, and power. That is their test; and if they cannot stand up to it on both sides of the Channel — and find the determined Government and the national cohesion required for it — there can be nothing before the free peoples and systems on this side of the Atlantic but submission and decay.

"There have been two aspects in direct contrast. While we exalt the human mercy and conditional promise of the one, we must face the other with unswerving realism as we value our lives; and not only our material lives but that breath of our souls which is inseparable from the tradition of freedom and strength wherein we were born."

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Effect of G5-Crisis

Reference

[Notes - (The review, indexing, and distribution of reports by O.N.I. will be greatly expedited if a brief summary of the contents is entered in this section. Mention heading geographical, personal, or political names, and the gist of the report.)]
"There has been a great trial of strength—what the Germans call a Kraftprobe. It would be worse than idle to deny that Herr Hitler has won one of the most complete and far-reaching triumphs of its kind in European annals. We cannot call it less than an austere test of armed diplomacy, and the continuing results will carry wide and far.

"On the balance of the stark circumstances as they stood, Mr. Chamberlain was a thousand times right with respect to his part in saving mankind from the insane catastrophe of blind world-war for a futile objective. While Britain was being bombed Czechoslovakia would have been irrevocably crushed. Including women and children—especially here where they are most exposed—millions and millions would have died on account of a racial medley in Central Europe which nothing on earth could have preserved; and no conflict could have restored.

"Yet the largest of the solid consequences henceforth to be reckoned with by ourselves and all others, is that the greater Reich, by the successful Kraftprobe, has gained yet further and most formidable accessions of relative strength by comparison with both the Western democracies. Germany holds a definite superiority of air-power over both. This has been a dominant factor behind the ultimatums and 'the squeeze.' Britain and France in the recent business, have been caught at a notorious disadvantage; the result puts them at an increased disadvantage. There can be no health in them and no hope for them unless they now learn the bitter lesson and act on it.'

He then comments as to the forces which Herr Hitler had built up in Germany, the strength of which he revealed prior to the meeting at Munich. Mr. Garvin states:—

"That people (Germany), though so much less rich and supplied than ourselves, have spent far more money on their armaments than we have devoted to the strength of freedom; and they have
made incomparably greater efforts and sacrifices in other ways."

He later adds:-

"Let the Western democracies, every party and section among them, lay their hands on their hearts, and say whether in the cause of the defence and strength of their freedom they have ever been capable during those five years of anything like the energy and concentration, the service and sacrifice, devoted by the totalitarian systems to the development of power.

......"When he (Hitler) reached his moment for bringing the Sudeten question to a head at any cost, he felt confident on the whole that it could be done by pressure without war. And it was.

"By mobilizing the totalitarian war-machine mankind was thrown into jeopardy, but the historic object was gained without a blow. Force potential was as effective as force applied. As regards the Sudeten, the Reich had a very cogent case. But the merits were one thing; the procedure by measured ultimatum was quite another. The method of armed pressure only triumphed as it did because, grievous to say, both Britain and France were found ill-prepared to meet the nature of the emergency under the novel and terrible conditions of the air-age.

"Had their organization been equal to their principles, had their defence been as strong as their words, the world's recent ordeal would not have arisen at all. This is the basic moral for the future. To put it obviously, the democracies cannot be on equal terms again unless, while always solicitous and strenuous to meet reason by reason, they are no less able to meet force by force."

After mentioning the gaps and deficiencies in the British armaments, Mr. Garvin states:-

"From top to bottom of the nation they know by instinct that their whole heritage and their whole future are at stake in this business."

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Among all classes and sections that instinct is universal, and the feeling is profound that we have come to our turning point.

"...One certainty is that unless the question of democracy and defence can be raised above the conventional antagonisms and catchwords of parties, no solution can be found. ...The crucial need is for unity for defence."

5. This article is added as an enclosure, and reference to it in entirety, as an excellent expression of the attitude as it appeared in England, is recommended. A clipping from The Times quoting statements of several Members of Parliament is also enclosed as a token of general feeling in that body.

6. In the final speech of the Prime Minister before the closing of Parliament on October 7, he announced that a prompt and thorough inquiry covering both the military and civil defenses had been ordered. The object of this inquiry presumably is to study the lessons learned during the crisis as to difficulties and deficiencies encountered in the process then under way of shifting the defense departments from a peace-time footing to one suitable for war operations.

7. During the past ten days since the adjournment of Parliament there has been a continuing of comment regarding the gaps in defense, an insistence that these defects be corrected without further delay, and that such plans be made for the future as will provide reasonable insurance against further aggressive demands. This comment has been in the form of numerous editorials and speeches and letters to the press by members of the government and other prominent persons. "World Conditions" (12 Oct.) reports that:

"The most clearcut results of the crisis were that men of all parties, except a few pacifists, are agreed upon the necessity of an accelerated preparedness program."

Sir John Simon speaking at Sheffield on 13 October stated:-

"The Government has at once entered upon the vigorous, complete, remorseless, urgent summary of the whole position", and "It was just as well they had to try their preparations out under actual conditions of crisis. It was still more to the good that it was only a trial for there was much to improve."

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Comparing British rearmament with that of the totalitarian States, Mr. Eden said (on 14 Oct.):

"Continuance of our present methods spells permanent inferiority. No effort to put our national defences and all that that implies on a secure basis can be successful without the agreement and active support of all classes and all parties."

8. This extensive comment and obvious determination of the British Government and public to take necessary steps to be fully prepared for any future crisis or to prevent such a contingency has evoked considerable response from the German press. Amazement and some indignation are expressed that Great Britain should adopt such "war-like" methods immediately after having declared for peace at Munich. However, these articles are credited as little more than propaganda releases, but are of little value to Great Britain in solidifying the big rearmament attitude (a pertinent clipping is enclosed).

9. The speech of Herr Hitler at Saarbrücken received very little publicity in English papers, and almost no comment. It has been stated that one of the effects of his rather antagonistic remarks regarding the British Government, or at least certain members of it, was further to strengthen the conviction of the British Government and public of the immediate necessity of increased rearmament activities.

10. The exact nature of the increase in activities and the steps to be taken to fill the gaps and increase and accelerate arms expansion have not been fully reported as yet. The surmise is that there will be some reorganization of the Government, with the formation of one or more new ministries, of which the most likely appears to be a Ministry of National Register. The purpose of such a ministry would be to maintain a complete survey of personnel with plans for assignment to provide for industrial as well as military mobilization in emergency. Another possible new ministry is one of Supply, and a third, a Ministry of Defence. Some announcement may be made in time to include with this report. Additional comment regarding these possible new ministries is made farther on under the comments regarding some of the existing ministries (a pertinent clipping is enclosed).
ATTACHÉ'S REPORT

From: 
Date: 19, Oct. 1938
Serial No.: 973

Subject: GREAT BRITAIN REARMAMENT FOR DEFENSE on rearmament plans

Effect of Cz. crisis

11. NAVY. A report of the mobilization completed and planned is contained in reference (o). There has been but little comment as to any deficiencies in the Fleet or its activities during the period in question. From this it may be judged that its condition and activities were generally satisfactory. Its mobilization is given credit as having considerable weight in bringing about the Munich negotiations. No demands have appeared for further increases, nor has there been any report of plans therefor.

12. ARMY. The mobilization of the Army extended to the calling out of the officers and men of the anti-aircraft units and of the coast defense units of the Territorial Army. The deficiencies in anti-aircraft units, both as to personnel and material, have been the subject of considerable comment. The present organization of the Territorials does not conform with that of the Regular Army, which they may be called upon to serve, nor is it uniform within itself. Immediate reorganization to conform to the Regular Army has already been promised. An increase in the anti-aircraft forces of the Territorials from two to five corps of 20,000 each was announced three months ago (N.A.L. Report No. 655, of 7 July, 1938 - Air-anti-aircraft Defense Expansion), but only the original two of these are effective.

13. As regards equipment, much criticism has in the past been directed toward the lack of modern types of anti-aircraft guns. This criticism was usually followed by reports of the excellence of guns of modern type that were being supplied, the apparent implication being that the public should not fear for lack of such equipment. However, on the present occasion no attempt to refute the charges regarding this deficiency has been observed. Frequent statements have appeared that only 5% of the modern guns required are available. Liddell Hart states that there were less than 100 anti-aircraft guns (presumably including old types) available for London. In many cases, even for the older guns, it is reported that parts were missing, that ammunition supplied was in some cases not suitable, and that the time required for furnishing even this equipment was 48 hours instead of 12 as per plans.

14. It is believed that the lack of modern anti-aircraft guns is the most outstanding of all the "gaps". This condition is often ascribed to the fact that there are two ministries concerned with anti-aircraft defense - i.e., the Army provides men (Territorials - not regulars) and equipment, but the Air Ministry is responsible for operations and to coordinate it with aircraft defense. The inference is that it is therefore the stepchild and as such is likely to be neglected.

[Table and other content related to the Intelligence Division, Office of Chief of Naval Operations, Navy Department, skullebe included here if necessary]
15. In the Regular Army it is reported that there are short-ages of men; of the new Bren guns; and also of anti-tank rifles.

16. As a means of improving anti-aircraft defense, the organization of Reserve Light Anti-aircraft units for the protection of important factories has been announced. These units are to be comprised of men between the ages of 36 and 50 who work in the factories which they are to protect. They will be organized and trained to man anti-aircraft defenses against comparatively low flying bombing attacks on such factories. This and the reorganization of the Territories to conform to the Regular Army are the only definite Army reforms announced to date.

17. AIR FORCE. The Air Force was mobilized to the extent that all units were placed on short notice; the operational organization at the Air Ministry and at the Command Headquarters was manned constantly, at least by a skeleton force; personnel of the Auxiliary Air Force required for the fighter squadrons and the balloon barrage, and also the Observer Corps, was called up; and the air-raid warning system was installed. The Air Ministry itself is understood to have been prepared to move the operational organization from the Air Ministry Headquarters in London to a less vulnerable post. The location of such station is not known, but it is presumed that it would be at or in the immediate vicinity of one of the Command Headquarters, either the Bomber or the Fighter Command. The camouflage of airfields was begun. One of these was observed from the air and was noted to be very much less conspicuous than before. A further report on this camouflage will be submitted.

18. One Air Ministry official informs me that the Ministry consider the recent experience invaluable as a test and for training, and that on the whole they were rather well pleased that things went so well. The Fighter Command was reported to be in a very good state as to operational readiness and morale. With credit for this would naturally accrue to the Air Officer Commanding-in-Chief, Air Chief Marshal Sir Hugh Dowding, my informant rather emphasized the point that the excellent condition of this Command undoubtedly owed a great deal to the leadership of that officer.

19. Although the delay in providing modern planes has been aired considerably in the recent past, the subject has naturally again come up for discussion. It is admitted that the R.A.F. is considerably inferior to the German Air Force in numbers, but inasmuch as this has been admitted for some time, discussion on this occasion has not brought forth further charges of insubordination.
The main theme appears to be progressive and no longer vindictive. The general opinion is that, inasmuch as all the efforts toward expansion of the present existing aircraft production facilities have completely failed, not only to overtake the German superiority of numbers but even to prevent a growing disparity, now other and more drastic steps must be taken. This feeling may be the major cause for the establishment of a Ministry of Supply, which only a few months ago was so flatly refused when proposed for the same purpose. Priority of armament products over commercial products is also mentioned as an aid to the solution of the present difficulties.

20. In the meantime, pending such heroic measures, certain steps have been announced for the further expansion of aircraft production and for improving air operations and defense -

(1) The Air Ministry will build at Gloucester a £1,000,000 aircraft plant to be under the operation of the Gloster Company.

(2) A £500,000 expansion by the Fairey Company will be financed by the Air Ministry.

(3) The Hawker Company, it is learned, has begun construction of a large new plant near Slough (it is badly needed).

(4) An R.A.F. Mission has just completed a week's visit to France. It is understood that this Mission discussed plans for the expansion of French aviation and plans for the use of French aircrews by the R.A.F. should occasion arise.

(5) It has been announced that balloon barrages, similar to that now being built up for the defense of London, will also be organized for

   Birmingham, Newcastle,
   Bristol, Plymouth,
   Manchester, Gloucester,
   Liverpool, Southampton, and
   Hull, Cardiff.

21. MINISTRY FOR COORDINATION OF DEFENCE. Regarding the status of the Ministry for Coordination of Defence, it has been proposed that this office should be reorganized, expanded, or replaced by one of greater powers. As at present constituted this Ministry has but little power, and at best can do little more than make recommendations. The change to a Ministry of Defence may...
directive powers over the present three defense ministries is again being discussed.

22. AIR RAID PRECAUTIONS. Reference (d) gives an account of the extent of A.R.P. activities. An enclosed clipping gives a fairly complete and concise statement of the A.R.P. situation at the time. The main difficulty with this activity was simply the general lack of everything - organization, material, personnel, and training. Nothing new in development has been announced, but the recent exposure of its shortcomings in a manner so personal to the individual will undoubtedly be of great value for future growth. There appears to be a continued publicity drive on this subject to keep the public aware of the A.R.P. requirements and also not to let it (the public) forget that much of the blame for the recent situation lies directly at its door for its apathetic response to A.R.P. demands. This apathy is well illustrated by recruiting figures. There had been, over a considerable length of time, a campaign for a million volunteers. At the beginning of the crisis only 350,000 of these had been obtained, and not all of these had been trained. 30,000 were desired for fire fighting in London; 4,200 had enrolled.

23. The A.R.P. has been criticized for giving too much attention to the problematical danger of gas and too little consideration to the unquestionable menace of fire. This, however, may be accepted as the natural demand of the populace for protection against gas, an entirely unknown terror, as against the menace of fire, an old foe but at least a familiar one.

24. OTHER DEPARTMENTS. In addition to the subject of armament and its allied activity, A.R.P., numerous other departments have come up for consideration as to reorganization or expansion. Plans have been mentioned regarding food storage and also regarding the increased agricultural activities which would be required on outbreak of hostilities. Mention is also made of the necessity for improvement of communications. As to this latter point, the Embassy had some experience during the crisis and can well confirm reports as to the urgent need for further development of communications. This is particularly true of the telephone system (see reference a).

25. Whatever may have been the deficiencies in the past and whatever the steps that may be taken to correct them, it is believed that both the Government and the general populace have been thoroughly aroused as to the dire necessity that the steps be drastic and immediate. The British complacency has been well upset. This in itself should be a great asset for future preparations.
It has often been stated that Herr Hitler has won the greatest bloodless victory in history. On the other hand, it is believed that the results of this awakening of Britain will be of great value in offsetting the German gain. Add this to the fact that a great European war was averted, and Mr. Chamberlain's winnings at Munich are far from insignificant by any comparison.
ATTACHÉ'S REPORT

Forward seven copies (original and six carbon); this number is necessary because of the limited personnel in O. N. I. and because of the urgency for quality reducing information from abroad. These copies will be distributed by O. N. I. as per form 228, as desired, according to subject matter.

From: X  Date: 20 Oct., 1938  Serial No.: 992  File No.: 228

Source of information: Personal observation.

Subject: GREAT BRITAIN

AVIATION  Balloon barrage—cont'd.


1. The following information on balloon barrage, additional to that forwarded in reference (a), has been obtained during the recent crisis.

2. The personnel of the balloon barrage was called out on 20 September and the various squadrons were stationed for operation of their balloons in case of necessity. The numbers of balloons and personnel available for operation at the present time have not been learned, but it is obvious that these squadrons are still undermanned and are not supplied with the 45 balloons which are supposed to be the present complement. Each squadron is to be expanded later to operate 60 balloons.

3. The personnel and material, however, which were available were stationed around and throughout the various boroughs of London. There was one balloon and its operating unit stationed in Grosvenor Square just in front of the Embassy on 8 October. Two others were observed in Green Park near Hyde Park Corner.

4. These units are completely mobile. The equipment itself consists of an operating winch clamped to a Ford truck but ready removable. Between the winch and the driver's seat is platform space available for carrying the balloon and tent equipment suitable as crew shelters. Housing facilities for the crews were obtained in neighboring buildings. The balloon is packed into a small package, approximately 4 ft. in diameter, and 2 ft. thick.

5. While previous reports on the equipment for the balloon barrage have implied that the balloons could at present be flown at 10,000 feet, the wire provided is of 3½ tons tensile strength, 5,000 feet long and of uniform diameter.

6. A bank of 36 hydrogen bottles is carried on a trailer which is towed by the above-mentioned Ford truck. This is sufficient for one inflation of the 20,000 cubic feet balloon. Additional trailers are provided for later supply as may be required for re-inflating or topping off.

7. Each unit consists of 10 men, two of whom are regular personnel, the other 8 being Auxiliary Reserve. The unit which was inspected in Grosvenor Square contained 4 men who had had no previous training whatever.

8. As a demonstration to the public and for test and training purposes not done so in O. N. I. One balloon was inflated at the Westminster Abbey on 8 October to show the public what the balloons were used for and to meet criticism of their use. The balloon was filled with both helium and hydrogen and was operated by Auxiliary Reserve personnel.
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From X Date 20 Oct., 1939 Serial No. 992 File No. 

Source of information

Subject GREAT BRITAIN AVIATION Balloon barrage-contd.

(Names reported on) (Select title as per index sheet) (Subheader)

Reference

State.—(The review, indexing, and distribution of reports by G. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention reading geographical, personal, or political names, and the gist of the report.)

-ing purposes twenty-four balloons were put up on Saturday, the 8th of October. These were sent up from various parks throughout the city, including the two locations mentioned above. On this occasion four of the balloons brake adrift. This was attributed to the rather stiff breeze. Officials announced later that the test was considered satisfactory.

9. The Secretary of State for Air, Sir Kingsley Wood, has recently announced that similar balloon barrages would be organized for the following ten cities:

Birmingham, Newcastle,
Bristol Plymouth,
Manchester Gloucester,
Liverpool Southampton, and
 Hull Cardiff.
CONFIDENTIAL

INSPECTION OF WORKS OF VICKERS-ARMSTRONGS LIMITED AT BARRINGTON-IN-FURNES AND NEWCASTLE-ON-TYNE -- DESCRIPTION OF Battleship and Carrier Construction

(b) M.A. London Conf. Report No. 753 of 27 July, 1937
(c) M.A. London Conf. Report No. 558 of 22 June, 1937
(d) M.A. London Conf. Report No. 652 of 16 June, 1937
(e) M.A. London Conf. Report No. 668 of 26 June, 1937
(f) M.A. London Report No. 1044 of 4 November, 1938
(g) M.A. London Conf. Report No. 55 of 10 January, 1938
(h) M.A. London Report No. 954 of 11 October, 1938

Enclosure: (A) Figure 1 - Battleship Armor Data - 5 copies
(B) Figure 2 - Form of Stern of Battleship showing Rudder and Skeg - 5 copies

1. In accordance with previous arrangements with the Chairman of the Board of Directors of Vickers-Armstrongs Limited and the Admiralty, I inspected the shipyard and machine shop (excluding the large gun shop) at Barrow-in-Furness on 8 November, 1938. In the forenoon of 9 November, 1938, I inspected the ordnance works at Elswick and Scottwood, and in the afternoons of the same day the shipyard at High Walker (Newcastle-on-Tyne). This report is divided as follows: Part I - Barrow; Part II - Elswick; Part III - Scottwood; Part IV - High Walker. Details of battleship and carrier construction will be found in Parts I and IV, the latter giving among other items information on battleship armor.

2. For ready reference, the following ships are building at the shipyards mentioned above:

Barrow

Aircraft carrier ILLUSTRIOUS (Keel laid April 1937)
" INDOMITABLE (Keel laid November 1937).
Submarine THISTLE (1090) (Launched October 1938)
" TRIAD (1090) (Keels laid
" TRIANT (1090) (March 1938)
" UNITY (540) (Launched February 1939)
" URSULA (540) " "
" TRIUMPH (1090) " "
" TETRARCH (1095) (Keel laid August 1938)
LA ARGENTINA (6000) - Argentine Cruiser

This report was prepared for the Naval Intelligence Division, Office of the Chief of Naval Operations, Navy Department.
Cruiser NIGERIA (8000), High Walker (Newcastle-on-Tyne)  
(Keel laid February 1938)  
Battleship KING GEORGE V, High Walker (Newcastle-on-Tyne)  
(Keel laid 1 January, 1937)  
Destroyer ZS/KMO, High Walker (Newcastle-on-Tyne)  
(Launched September 1937)  
Aircraft Carrier VICTORIOUS, High Walker (Newcastle-on-Tyne)  
(Keel laid May 1937)

3. As both the shipyards at Barrow and High Walker had battleship and carrier work under way (although Barrow is not building a battleship), it is proposed to give herein the items of interest observed on each type in each yard.

PART I

BARROW-IN-FURNESS

4. I was received at 9.30 a.m., 8 November, 1938, by Mr. J. Callander, the General Manager, who explained the general layout of the ship yard and gun shops. The last were not shown. Commander A.S. Cumming (R.N.) was designated as guide, and with Mr. G. Houlden (Shipbuilding Superintendent) took the writer for a limited walk around the shipyard and shops during the morning. After lunch Commander Cumming conducted me around the machinery shops and at about 4.00 p.m. I was sent by car to Newcastle, a drive of 132 miles lasting over four hours.

5. The Vickers-Armstrongs Works at Barrow now employs about 13,000 men. At present it has no merchant ship construction, which has necessitated recent reduction in force of about 2,000 men. They are working a 47-hour week. The working hours of the firm are from 7.30 a.m. until noon and from 1 to 5 p.m. The average pay of a good mechanic is £4.10.0. per week, and most of the work is on a piece work and bonus basis.

6. Nothing was seen of any of the seven submarines building with the exception of two partially assembled superstructures in the structural shop. Nothing was seen of the 6,000-ton Argentine cruiser LA ARGENTINA.
Aircraft Carriers (Barrow)

7. Only a distant view was had of the bow of the aircraft carrier INDOMITABLE. More was seen of the ILLUSTRIOUS from a point on the starboard bow, about 100 feet distant. This vessel was laid down in April 1937 and from the look of things at the building slip, it should be ready to launch in about three months. The sliding ways were piled up around the bow and work was starting to get them in place.

8. Of a standard displacement of 23,000 tons, this vessel, it was ascertained, will have a launching weight of 17,000 tons. About 1700 tons of drag chains will be used in the launch of these two carriers to check their distance run.

9. At the bow of the ILLUSTRIOUS was a brick building about 50 ft. square in plan, which housed two 100-man electric welding generator units. These took AC from the shipyard and converted it to DC. All the electric welding at Barrow is DC. When seen, these were delivering 1000amps. at 70 volts DC. At the time only about 70 welders were working on each carrier.

10. On these carriers, it was stated that all the transverse bulkheads are all electric welded. The shell plating for about 75 feet abaft the stem and (stern not seen) about the same distance from the stern is welded seams and butts. Deck intersections with the shell are riveted in these areas. It was said that unimportant flats (such as some storeroom flats hung under decks) were all welded. Beam knees were split, opened cold and sections electric welded. These were seen in the shop.

11. These aircraft carriers have 120 lb. (3 inch) non-face hardened ballistic protection on the flight deck over all hangar spaces according to my guide when asked about the plates seen in the shops and yard. The same material is used, but of 2 inch thickness on the hangar deck as protection from explosions below.

12. The aviation gasoline tanks are separate cylindrical tanks each of about 8 ft. diameter and 12 ft. long. Two of these were seen in the shop. They are of a combined riveted and welded construction, it was said, according to Admiralty requirements. It was not possible to get near enough to see the details of this combined riveted-welded construction. It was stated, in answer to a question, that these are spray galvanized on the interiors by the Schori process. These do not have any hydraulic displacement sys-
tem and no CO₂ pressure or covering (blanketing) provisions. The gasoline is pumped out and the tanks vented to the atmosphere.

13. Two boilers for the carriers were seen in the boiler shop, partly completed. These are of the three drum type and no space appeared in the nests of tubes for insertion of superheater units. There may be some superheating provisions, however, as these boilers merely were in an early stage of completion. All the tubes in the three drums were in, however. These tubes were all electro-galvanised and consequently presented a silvery appearance. Working pressure was given as 350 pounds per square inch.

14. A protective deck ventilation grating for the carriers was seen in a large horizontal boring machine in the main machine shop. It was about 5 feet square and about 4 inches thick. The holes were about 4 inches in diameter and edges were rounded off.

**Battleship Work (Barrow)**

15. No battleship is building at Barrow but they are building the boilers and main propelling machinery for the KING GEORGE V.

16. Eleven boilers were counted in the boiler shop, in different stages of completion. When asked why the number was odd, I was informed by Commander Cumming that it was possible that the boiler spaces narrowed forward. There were apertures for nine burners in each boiler, four in upper row and five lower. Working steam pressure was given as 350 pounds per sq.in. Some additional drums were seen that might have been for a twelfth battleship boiler or for some more carrier boilers, but I doubted this as the battleship boilers had the priority and the least completed BB boiler was quite advanced over the two CV boilers seen.

17. One unusual thing noticed about the steam and water drums of all these boilers was that they were about twice as thick in way of the supporting pedestals as they were elsewhere. This thickness was obtained by machining down and was said to be very costly but was what the Admiralty wanted.

18. The battleship shafting seen in the machine shop was very nearly 84" in diameter. The longest single section noted was about 80 feet in length.

19. The battleship KING GEORGE V is to have four propellers and one rudder. A model of the battleship hull was seen in their model shop. This was not for tank experiments but for exhibition.
purposes. It showed a single balanced rudder of conventional design, the under side of the skeg of the stern casting was shown as a straight horizontal surface and the rudder flat-sided. When the stern of the battleship KING GEORGE V was actually seen the following day at Newcastle (High Walker)-on-Tyne, it showed differences in these respects which will be noted later. It would appear, therefore, that the exhibition model is so made as not to disclose the actual details. The actual single rudder is of a rather unique design.

20. The main propelling machinery (one unit) was being set up in a large machinery pit in the big machine shop, and was viewed at a distance from forward of about 100 feet and at about a level of the turbines. The arrangement showed that the condensers were slung under the turbines. It was stated that there would be double reduction gears, that the condenser shells were all welded and that the turbines were opposed. The exhaust trunks were all welded.

21. No main thrust bearings for the BBs or CVs and no turbines in process of building were seen.

22. In this large machine shop it was said to be customary to set up and run the main engine installations complete without reduction gears but with water brakes at reduced power. Each of these large pits is spanned by one 25 and one 80 ton traveling bridge crane.

23. In the same shop several large gun pits for both 14" and 6" gun turrets were observed. No turrets were in these pits in this particular shop, but 14" pans were in process of assembly and the pits were being prepared. It is customary to assemble turrets, guns, mounts, structure all the way down and armor, complete in the shop for all turrets. In the case of 6" turrets, training and elevating mechanisms are installed and the units actually worked. In the 14" turrets the gun elevation units only are installed. In any case, no fire control gear is installed in these shop tests. The units are then disassembled and shipped by water from this plant to destination.

24. No 14" turret face plates were seen. No electric welding in the 6" or 14" pans was evident except in the lowest enclosure of the 6" ammunition hoist structure where some small welded brackets were noted.
25. Some 6" endless chain hoists were observed. These merely consisted of circular bronze supports for the shells carried by sprocket chains.

26. The 14" gun slides have one recoil cylinder on top and two counter recoils under. It is estimated that the width between vertical trunnion surfaces is five feet. I asked the counter recoil pressure but was not given it.

27. The main battery arrangement for the battleships of KING GEORGE V Class was given as a quadruple and next a double turret forward with a quadruple aft. This verifies par. 2 of reference (a).

28. The 14" quadruple turret floor plating is estimated as being 3½ inches in thickness.

General Remarks on the Barrow Shipyard and Machinery Plant

29. The shipbuilding structural shop is of an old type and small in comparison to the amount of work turned out. It is somewhat larger than the old structural shop at New York Navy Yard before the present shop was built in 1917.

30. There were about 80 electric welders working in this shop when inspected. The work consisted principally of bulkheads and flats for the carriers. There was a welding school with twenty booths but only one man was seen in his booth. They are trying to build up their number of welders. From what I could gather, the popularity of electric welding is gradually increasing but the training given is not anything as complete as ours. The welding has progressed to the state in this plant where it has practically closed the drop forging and light forging shop.

31. Punching of holes in ordinary structural plates and shearing the edges has practically been abandoned here except for the smaller plates. It was said that the drilling of a stack of plates bolted together and the planing of the plate edges of the pile worked out cheaper for them. Many drilling machines were noted which were mounted on frames that straddled the plates (about a 10 ft. straddle with tracks each side). The labor custom was formerly to have a high-priced man (plater) in charge of punching operations. The present practice gets away from this and reduces the labor cost. Shearing is only resorted to in curved or shaped boundaries of plates. When the bundles are broken, low-priced
unskilled men are used to transfer the necessary markings from the top plate of a pile to the others. Shop countersinking is done by means of vertical spindle electrically-driven machines supported on frames that can be swung around and in or out.

32. It is not customary at Barrow-in-Furness to pickle structural material for merchant vessels except that in fuel oil tanks. I was told that for Naval vessels, the Admiralty required picking of oil tank structure and all inner bottom spaces (floors and shell). All side plating is picked up to the waterline but not above. It is possible that with the very cheap labor, hand scaling and (or) brushing after weathering on non-pickled material is advantageous.

Mold Loft

33. In the mold loft white pine and to a less extent redwood is used for templet material. Practically no paper is used. In recent years they have introduced thin steel strips about 4 inches wide for their templet material. These are easily cut and punched, hold their shape in all kinds of weather, and roll up into a small space so that little stowage space is required. The strips are not connected together to form templets but are used individually as strips. All templets and molds are destroyed soon after use as it is felt to be cheaper to make new ones than to check and correct old ones. Large piles of old templets were therefore conspicuous by their absence.

34. In the Structural Shop two assembled forward sections of Submarine E.W.F. superstructures were observed. One stern section of a destroyer was also assembled nearby. This is evidently for shipment to some other yard as they are building no destroyer at Barrow. These were all hot galvanized and all riveted and were the only large assemblies noted in any of the shipbuilding shops here or in Newcastle. Each superstructure was to be broken in half to take it from shop to ship.

35. In this shipyard there were generally poor facilities for welding large assemblies under cover and especially for handling them from the shop (or outside spaces) to their destinations. This was in contrast to the excellent facilities for handling turret assemblies from the machine shops to the 200-ton crane at the waterfront for transportation by water to other building yards.

36. The foregoing completed the morning inspection of the shipyard and hull shops.
Machine Shop and Foundries, Barrow

37. After lunch the inspection passed to two large machine shops (exclusive of the large gun shop), and steel, iron and non-ferrous foundries.

38. The manufacture of Pegasus airplane engine cylinders was witnessed and the process was as already described in reference (b). One feature of machining the cylinders not given before, however, is of particular interest. There were two large automatic machine lathes for machining the outside surfaces of the cylinders. In each of these machines, a large cutter head, holding six high-speed cutting tools in a vertical position, is fed both radially and axially in relation to the cylinder to be machined, which is mounted on a mandrel turning at about 120 revolutions per minute. After these six cutters (set at different heights) have completed their cuts, four more high-speed cutters, mounted horizontally, are fed in to the cylinder from the rear of the machine. The outside machining of one cylinder as above described took exactly two minutes and thirty-five seconds. They were turning out 500 of these cylinders per week at this time.

39. A twin 50 cal. machine gun assembly was seen. These guns were mounted abreast of one another. In answer to a question, they were said to be for a "foreign government". I got the impression that the British Navy does not use the twin machine gun of this caliber, but instead the quadruple mount where the guns are vertically disposed to one another, and so set that their muzzles are in a slanting line.

Foundries

40. The iron and non-ferrous foundries had nothing particular of interest. The usual foundry practice was in force. It was noted, however, that no moulds were made of self-hardening cement mixture reported in reference (h).

41. There are no electric steel furnaces in the steel foundry. There are two thirty-ton open hearth furnaces, however. With the necessary gas plant, blowers, recuperators and all the piping and ducts for these furnaces, the installation appeared very complex. It was stated that in general thirty-ton castings were the largest made, although they had produced castings up to thirty-five tons in this foundry.
Turbine Blading

42. A large loft is devoted to the manufacture of turbine blading. At the time of this visit there were 95 women working on the various operations required on both impulse and reaction blading. It was said that women stand the continual repetition of the necessary irksome operations on this kind of work much better than men.

43. All the turbine blading seen was of "Hecla" steel for the impulse and CBS for the reaction blading. They were not working on any bronze blading at the time, although some bronze reaction blading was noted in one of the opened turbines for a battleship seen in the shop.

Miscellaneous (Barrow)

44. In general, the shops were fitted with glass roofs, which gave excellent lighting. No provisions are made for working during air raid "blackouts". It was said that all work would be stopped under these conditions. One permanent underground shelter from air raids was seen, partly completed. This consisted of two cylindrical steel chambers, each about 20 feet in diameter and about 3 feet high, set in the ground. A hole for a door (about 4' x 2') was cut in each cylinder. When it is considered how vulnerable a large plant like this is to air raids, any adequate protection in the plant itself assumes almost impossible proportions.

45. Shop and yard transportation appeared to be excellent at Barrow. Small gasoline-driven three-wheeled trucks are used in many shops. These can turn in a very small space. Trucks and trailers are used to a large extent out in the yard. The usual steam locomotives are also numerous, but very few locomotive cranes were seen.

46. No safety bulletins were seen in any shop or around the yard. They have no such thing as safety competitions between shops or trophies to stimulate safety. Each shop foreman is responsible for the safety of his men; the Company carries compensation insurance and has an overseer with one or two assistants make rounds of the shops. In spite of this, I was told, they have few accidents.

47. Apprentices spend all their time in the shops and, so I was told, do not divide their day between shop and classroom work. There is a Supervisor for Apprentices.
48. The Company grants a concession for providing facilities for men to purchase light lunches. Most of the men bring their lunches and eat in the shops in which they work. No separate spaces are set aside in the shops in which men may eat. Many men go to their homes for lunch during the one-hour lunch period.

49. The higher officials, such as directors, special directors, general managers and superintendents, eat in a dining room called the "House of Lords", to the number of about twelve. The managers and chief draftsmen eat in the "House of Commons" which is a large well-furnished hall. It is estimated that about 60 dine here.

50. It was learned that LA ARGENTINA would be delayed in completion on account of the fire control equipment which was being designed and built by Vickers. The main battery guns of this vessel are automatically trained and elevated by the director sighting mechanism. It was said that considerable difficulty had been encountered in this system; but the precise nature of the troubles could not be ascertained with the exception of "lost motion".

51. Some destroyer twin 477 slides were seen. These consist of two separate single slide castings bolted together.

52. Barrow is starting to prepare estimates for destroyers and submarines for the Turkish Navy (see reference (f)).

53. In closing remarks on the inspection at Barrow-in-Furness, it may not be out of place here to remind the reader that the whole community of Barrow-in-Furness is dependent on the Vickers-Armstrongs Ltd. plant. There is no other industry here. Many of the small towns within ten miles of Barrow have no other livelihood. The advantage of having a fixed and more or less skilled population where trades are passed along from father to son is outbalanced by the hardship experienced when the work falls off and also by the difficulty of securing additional labor when the work expands beyond what can be handled by the numbers of men at hand. If this plant were to go on a 2-shift basis throughout, the extra men would have to be imported.
ELSWICK (Newcastle-on-Tyne)

54. In passing now to the Vickers-Armstrongs Ltd. plants at Newcastle-on-Tyne, it is well to note that the labor situation is exactly the opposite to that described above in Barrow-in-Furness. At Newcastle there are many large industries which employ thousands of men. The community is a very large industrial one so that there is more flexibility in employment and large numbers of workers are not dependent upon any one company for employment.

55. The Vickers-Armstrongs Ltd. plant at Elswick was visited on the morning of 9 November, 1938, where Commander E.R. Mickle, R.N. (Retired) received the writer and personally conducted him through the Shops.

56. The Elswick Plant, at the time of this visit, employed 12,500 men including those employed in the Variable Speed Gear Ltd. which is part of the plant. These men were working a 47-hour week, starting at 7.30 a.m. and stopping at noon. Lunch over, work starts again at 1.00 p.m. and knocks off at 5.00 p.m. Most, if not all, of the workers are on a piece work and bonus basis, the piece work and bonus rates being so adjusted that the earnings average about $1\frac{1}{2}$ times the scheduled day rates. Under these conditions, the average weekly amount earned by a skilled machinist is about £4.10.0. Practically no shift work was being engaged in at the time of the visit.

57. I was conducted through the plant in the same manner as described in reference (a) and (d) and saw the same things relative to the manufacture of Bliss Frames (for automobile bodies), cartridge cases, and auto fretting (reference (c)) and aerial bombs and their method of manufacture (reference (d)). The gun pits and large 14" guns as described in these references were observed and I saw nothing that could be added to these reports. Large quantities of magnesium castings for the tanks were observed. This material has good physical properties and is very light but cannot be used in a salt atmosphere on account of its rapid corrosion (see reference (e)). Enquiries as to how many aero bombs were being turned out per week were politely declined.

58. No 16" gun construction has been started at Elswick.
59. The confusion as to the thickness of back-sides and sides of the triple 6" cruiser mount mentioned in par. 5 of reference (b) was kept in mind. From one of these set up in the shop, I am able to state that (without actual measurement) the back and sides were of 2-inch thick non-cemented (not face hardened) armor. The edges of the face plate were seen at some distance and appeared to be two inches (or slightly more) in thickness. The floor plate was 2" thick.

60. Some light tanks were seen at Elswick and it was stated they were being built for Finland.

61. Some of the older shops are being rebuilt and much new equipment in the way of machine tools has been and is being installed. One large machine shop was said to be over 1,000 feet long and was of the most modern design, with modern equipment. Excellent conditions of lighting were realized by the large amount of glass on sides and top. The structural steelwork in the building was all painted white. The shop was heated by numerous steam heaters (each about 4' x 4') having electric fans integral with them for circulating the air over the heated radiating surfaces. These heaters were installed about 15 feet above the floor of the shop.

62. A number of 14" turret pan assemblies were under construction and pits for the same were being prepared in a similar manner to that described in the foregoing and seen at Barrow. Turret floors were 3" thick. No additional data on these was secured at Elswick.

63. No large projectiles are made at Elswick and only comparatively few medium calibre shells for odd lots are made here.

PART III

SCOTSWOOD (Newcastle-on-Tyne)

64. Next my guide took me for a quick look at the Scotswood works, which is about 15 minutes drive from Elswick.

65. At Soutwood practically all the work is Army Ordnance, light tanks and fuses for Army and Navy projectiles. Scotswood is a production plant entirely and no design work is accomplished here.
66. Several mobile 3.7 inch guns and trucks were seen close to. The 3.7 guns appeared to have a follow-the-pointer control. A number of 2-pdr. anti-tank guns were noted. These were of a single tube construction and had the interrupted threads machined on the outside of the breech ends.

67. Scotswood is starting in production of the new 4.5" anti-aircraft guns for the Army.

68. I was given a glance but was not taken through the large fuse machine shop. This is modern, well-lighted, and painted white, with new cement floor. It is estimated that about 200 women were engaged in lathe and automatic machine work in this shop.

69. In the case of the Scotswood plant, the total number employed was 4,500 at the time of this visit. Here, as at Elswick, the bulk of the work is on a piece-work, bonus, basis, with rates so adjusted as to net to the wage earner about 1½ times the established daily rate of pay. The working hours are the same as given above for Barrow, and 47 hours constitutes a week's work.

70. Scotswood is increasing their force at the rate of about 35 men per week.

71. It was explained that this whole plant was taken over from a locomotive and railroad car building firm in August 1937. Since then the whole has been almost entirely re-furnished with machine tools which, together with the land, is rented to Vickers-Armstronge Ltd. by the Government. Some of the original machine tools have been modified to suit the different style of work. The layout of the whole plant was studied prior to taking over, so that machine tools were ordered well in advance and the layout of each shop accurately known. Thus, in a little over a year, the plant is nearly up to one full shift production and a balanced force of 4,500 built up.

72. After lunch, the writer was sent by car to the Vickers-Armstronge Ltd. shipbuilding yard at High Walker, Newcastle-on-Tyne, which is about one-half hour's drive from Elswick.
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From X. Date 15 Nov., 19-38 Serial No. 1054 File No. (Address copies) Navy Department

Source of information

Subject: GREAT BRITAIN (Nations reported on) (Address copies)

Reference

NOTE.—(The viewer, indexing, and distribution of these reports by G. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention mailing preferences, personal, or political names, and the gist of the report.)

-14-

5000 men.

74. We have nothing to learn from the layout with the exception of a fitting-out sea-wall about 2000 feet long with excellent travelling cranes running on tracks along the waterfront, of capacities of 10 tons at 60 ft. There is one large 250-ton hammerhead crane for battleship turret installations. This crane has a 15-ton crane (60 ft.) travelling on the top of its jib. Storehouses parallel the waterfront.

75. At the land side of the yard is a high hill (about 75 feet). All the material has to be brought down ramps and the men on their way to and from work have to climb long flights of steps.

76. The yard has poor facilities for under-cover electric welding of large assemblies, and also handling facilities for the same.

77. I was received by the Manager who turned me over to the Chief Draftsman, who in turn conducted me through the shops and around the yard.

Battleship and Carrier Construction (General)

78. The aircraft carrier and battleship building here were said to have all, all-welded structural bulkheads, some of which were seen under construction. The quality of welding seemed to be good. The shell of the carrier is welded from the stem back about 60 ft., both seams and butts, but the deck connections to the shell are riveted. The stern of the carrier had not been built on for the last 50 - 60 feet.

79. Both battleship and carrier had straight stems built at an angle of 10° with the keel with an abrupt, almost sharp forefoot. Neither had any bulbous forefoot and neither had any permanent eyes for paravane chains. In answer to a question, I was informed that the straight stems were to take the sliding "V"-type fitting for paravanes.

Battleship KING GEORGE V

80. The lower strake of tapered armor was partly installed so that it was possible to see the sections. The taper starts about 12" from the top section which is 12" thick. At the bottom of the taper, the plate is 4" thick. These tapered plates of the lower
strip of armor are about 10 feet long by 8 feet wide (high) and have recesses for keys on either end as shown in the sketch, Figure 1 herewith. At the upper edge (as installed) there is a projecting lip, continuous for the whole length except where pierced by holes of about 2" diameter and about 5" deep. These holes are not threaded internally and are apparently for dowels.

81. Armor bolt holes are about 4" in diameter, spaced about three foot centers.

82. The armor backing consists of teak wood strips about 8" wide and 1" thick placed on the medium steel shell, so located as to be around the periphery of the armor plate when it is installed. A vertical strip of teak is fitted every 5 to 6 feet. These teak strips act like washers and keep the armor plate about 1" away from the structural plate. Before putting up the armor plate, a paint (none seen) of the consistency of a hard grease, is spread over the vertical structural surface. No other wood or cement backing was to be installed according to my guide.

83. None of the armor plates for the two strakes above the lowest tapered section was seen. It was stated, however, in answer to a question that these were both of 12" thickness and were to be installed as above described in the case of the lower strake.

84. In answer to a question, I was informed that there was no internal side armor and that there were three skins inside the hull in way of machinery spaces, one of which was ballistic although of non-cemented (not face-hardened) armor.

85. The main protective deck armor was said to vary in thickness, but the main part of it was of 5" thickness, non-face-hardened. I saw at least a dozen plates which, upon questioning, I learned, were protective deck plates. They were 5" thick and about 30 ft. x 10 ft. These all had bolt holes of about 3" diameter, spaced about 3 ft. centers. On one edge only of all these plates I saw, was a projecting lip. Other edges were plane. I could not see any plates with corresponding female grooves to take these edges.

86. One closing-in plate was seen which might readily have been for the protective deck over a steering gear or engine compartment. It is estimated that this plate was 8" thick. There were two rabbets out around its periphery which indicated a top 2" layer of adjacent plating and a 5" surface to face a 5" thick adjacent plate.
87. It is desired to emphasize that the above-described protective deck plating had holes for armor bolts and not rows of holes for riveted connections.

88. Upon inquiry as to numerous 2" plates with holes for rivets (not armor bolts) that I saw, I was informed that this was the upper protective deck plating.

89. It is of course possible that a 2" strake might be installed on the main protective deck below or above the 5" thick plates mentioned above, but not one of the 2" plates seen in the shop or outside had holes corresponding with the armor bolt holes in the 5" material.

90. There are to be patches of armor over magazine spaces forward and aft, each of about 20 ft. x 8 ft., although the plates themselves were not seen. The medium steel shell plating was recessed, both top and bottom, for these plates in both locations. The outer surfaces, it would appear (from the model, I saw at Barrow the previous day) of the magazine side plates, would be flush with the adjacent lower strake of tapered armor but the recesses in the hull indicated that the plates would be thicker than the top section of the tapered plates. It is estimated that the tops of these magazine armor plates would be 14" thick as against 12" for the others.

91. The side armor is of three strakes of 8 ft. each high, all 12" thick except the lower tapered strake and the extra magazine protection described above. Judging by eye, it would seem that the joint between the tapered lower strake and that next above would be at or slightly below the waterline. If a foot below, this would bring the lowest point of the side armor about 9 feet below the surface of the water, with the taper starting at about 2 feet below the surface.

Launching

92. The KING GEORGE V will be launched with all deck and side armor installed. The launching weight will be about 20,000 tons. Checking arrangements in the form of drag chains will have to be used up to an amount of somewhat less than 10% of the launching weight.

93. Preparations were being made to get the ground and sliding ways under the ship, and these were piled up in the vicinity. It
is estimated that this vessel will be launched in the last part of January or first part of February 1959.

Form of Stern, Skeg, Rudder etc.

94. The form of the stern is similar to our single-rudder, four-propeller battleships of pre-war design. The overhang is estimated as about 80 feet from the knuckle. The dead-wood (just forward of the rudder support) is cut away, however, and the skeg curves down to the rudder, possibly 3 feet in vertical height. The position of the struts indicated that the after propellers are about 30 feet abaft the forward propellers which are about on a level with the knuckle fore-and-aft. Figure 2 illustrates the stern and rudder arrangement.

95. The rudder is of the balanced type but differs from the conventional design in that the forward upper edge of the balanced portion curves upward partly filling in the space just forward of the skeg that is cut away. The corners of the rudder (in elevation) are well rounded. The horizontal and vertical sections of the rudder are curved. The rudder is of riveted construction and it is electrically welded around the periphery in addition to the riveting. It was stated that the rudder is filled with cork. No portable plate for access to the interior of the rudder was noted. The diameter of the rudder stock was estimated as 26 inches.

96. In view of the difficulties experienced in trials of the WARSpite upon completion of her modernization as reported in reference (g), it is of particular interest to note that this new battleship has only one rudder and that it and the stern have the form described above.

97. As it was not possible to take down notes or to measure dimensions, many given here are necessarily approximate. They will be revised as more exact information becomes available.
1. The Fleet Air Arm is still employing on carriers the same types that have been in use for several years; namely, the Hawker "Siskin" as the single seater fighter, the Hawker "Gryph" as the 2-seater fighter reconnaissance, and the Fairey "Swordfish" as the torpedo spotter reconnaissance plane.

2. Battleships and battle cruisers are using "Swordfishes" for spotting. It is understood that these planes are also extensively used as tactical scouts and when used for this purpose frequently carry the Chiefs of Staff. The cruisers are using "Juno"es" and "Sea Foxes", the former generally on the larger cruisers and the "Sea Foxes" on the smaller.

3. The Blackburn "Skua" has for some time been under development and construction for use as a dive bomber. This plane has, however, developed numerous faults which have greatly delayed its production. The faults are understood to be rather serious. It is further understood that it is feared this plane will be a failure.

4. Hawker, Fairey, and Boulton and Paul Aircraft Ltd. are believed to be working on a Fleet Fighter, folding wing, monoplane type, but having considerable difficulty in meeting the ambitious requirements of the Fleet Air Arm. These requirements are understood to call for a stressed skin, folding wing monoplane carrying a large number of machine guns, possibly 8 to fire forward, radio and possibly a small bomb load. The plane must be stressed for catapulting and arrested landing and have built-in flotation; and interchangeable floats and wheel-type landing gear. The wings are to fold to a width not greater than 14 ft. and to less than a certain height. It is understood that the catapult requirement refers to the accelerators built into the carrier decks and not to the battleship and cruiser type catapults.

5. As interim types there are at present two developments. Gloster "Gladiators" are being equipped as Fleet Fighters as the first replacement. A later development is being undertaken by the Fairey Company. This is a modification of the Fairey P4/34, which appeared as a prototype in 1937 as a single-seat fighter. As such it had excellent characteristics, but was not ordered in quantity, for the simple reason that it was considered undesirable to have more types of fighters than the Hawker "Hurricanes" and the Supermarine "Spitfire" and besides the Fairey Company was fully occupied with "Battles" and older types. It is now being developed to embody all of the characteristics mentioned above, including the
light bomb load, probably two 112-lb. bombs, and in addition a
second in the crew as observer and W/T operator. The first plane
of this type is scheduled for completion in the summer of 1939,
and provided it is satisfactory and no alterations are required,
production is to begin in the autumn of 1939.

6. The Fairey Company is still building "Swordfishes" at the
factory at Hayes. A replacement is scheduled to be out late in
1939, which is to be a biplane, folding-wing, stressed-skin con-
struction, with built-in flotation, and to be powered with the
Bristol "Ferescus" sleeve-valve engine.

7. On a recent occasion when the Fleet Air Arm was visited by
Mr. Temple Joyce with the object of providing the Brewster two-seat
dive bomber, the officials of the Fleet Air Arm showed great
interest in the characteristics of that plane. However, after two
days, Mr. Joyce was informed that the purchase of any number of
foreign planes by the Admiralty was out of the question on account
of the unfavorable reaction on a previous occasion, when the Air
Ministry bought 400 American-built planes.

1. Reference (a) is a report prepared by the Assistant Military Attaché for Air as the result of his visit to the plant of Westland Aircraft Ltd. It is quoted verbatim for information:

"The Westland Aircraft Ltd., Yeovil, Somersetshire, are building the Lysander Army Co-operation aircraft. This machine was ordered about three years ago and has only this year come into service, there being approximately but 23 produced by July 1st, this year.

"This machine is covered in the Annual Aviation Intelligence Report, and described in detail in THE AEROPLANE for June 8, 1936. However, for convenience a short description follows:

"It is a two place high wing metal monoplane, fabric covered. It has ingeniously connected and automatically operated slots and flaps. It is powered with a Bristol Mercury XII (300 H.P.) engine, supercharged for 5000 ft. Its speeds are:

- at sea level - - - - - 230 m.p.h.
- 5,000 ft. - - - - - 220 m.p.h.
- 10,000 ft. - - - - - 225 m.p.h.
- 15,000 ft. - - - - - 223 m.p.h.

and its lowest flying speed is 85 m.p.h.

Initial rate of climb 1650 per minute
Rate to 20,000 ft., 19.5 min.
Service ceiling, 25,000 ft.
Range, 500 miles at 150 m.p.h.

"Stub wings to carry bombs can be attached to undercarriage legs just above wheels.

"Two fixed .30 machine guns are fitted in wheel fairings just outside propeller disc so that interrupter gear is not necessary.

"High duty aluminum alloy extrusions are used in several places in this machine."
"However, while its construction and general appearance is unusual, this machine is not considered as of any really special interest.

The Westland factory, like many of the older aircraft factories just grew by adding buildings or taking over buildings of the parent company, with the result that it is not at all well organized or planned for systematic production. Shops are overcrowded with machinery, jigs, work benches, etc., so that no proper flow of parts or components could be properly maintained although attempt has been made to complete components in separate shops and assemble completed components in final assembly hangar facing on the aerodrome, which appeared quite satisfactory.

Railway siding runs directly into one small building or shed where, I was informed, four aircraft per week were loaded for shipment and that facilities would permit loading of ten aircraft per week.

The managing director stated that the present production was five machines per week but that this would be doubled by spring as the factory would be enlarged by acquisition of additional buildings belonging to the parent company and by some new building. During tour of present factory, only two main fuselage jigs were observed.

There are somewhere in the neighborhood of 1500 or 1700 employees working one shift but, according to the managing director, working considerable overtime.

While it was denied by Westland officials, it is understood from reliable sources that the company are working on the development of a twin engined fighter mounting several fixed cannon of, it is believed, 23 mm.

This company was lately taken over by John Brown Ltd., the ship builders.

It was stated that £1,000,000 (US$2,000,000) of orders had already been delivered and that £1,000,000 of orders were on books for delivery within coming year."
ATTACHE'S REPORT 1004-100

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From: X Date: 17 Nov., 1936 Serial No. 1061 File No.

Subject: GREAT BRITAIN AVIATION - Aircraft Production - Gloster Aircraft Co., Ltd.


Reference (a) is a report prepared by the assistant military attach&eacute; for Air as the result of his visit to the plant of Gloster Aircraft Co., Ltd. It is quoted below with information:

"A visit was recently made to the Gloster Aircraft Co. Ltd. of Gloucester. This company is one of the group of Hawker Aircraft Ltd.

"The present factory buildings, adjoining a very good flying field, are all quite new and have a floor space of 525,000 square feet. With £1,000,000 (f5,000,000) furnished by the Air Ministry, additional buildings will be added which will increase the floor space by 525,000 sq. ft., giving a total floor space of 1,500,000 sq. ft.

"At the moment, factory seemed over-crowded and, due to variety of work being carried out, not too well organized. However, the location of present building will facilitate flow production and with the additional floor space provided for could permit reorganization and more room for various operations. However, like most aircraft factories, buildings are grouped together on one side of aerodrome and would present a large and easy target to hostile bombers.

"One large building was devoted to sheet metal work. Here there were no presses, all parts for cowlings, gasoline tanks, etc. being cut and hammered to shape by hand.

"Since the contracts for 'Gauntlets' and 'Gladiators' were completed some months ago, the factory has been carrying on with sub-contracts. They are now working on an order for 200 Hawker 'Henleys'. This machine was originally designed and adopted as a light two place bomber, but due to its short range it was decided to use it for high speed target towing for anti-aircraft practice. (This machine, with speed of 292 m.p.h. at 17,000 feet, would have made an excellent 2-seater fighter.)"
The Company has also been given an order for an unlimited number of Vickers 'Wellingtons', but whether or not such will be accomplished or this contract until the new buildings are ready is not known, as the company has other contracts evidently more pressing. However, in one shop at least for 'Wellington' wings were in course of erection. These jigs were being built of heavy I and L sections well buried in concrete bases in holes excavated in floor. There were also 'Henley' wing jigs all containing wings in various states of completion.

The 'Henley' wings are interchangeable with those of the Hawker 'Hurricane'.

Due to the delays in the production of both the Hawker 'Hurricane' and the Supermarine 'Spitfire' and the urgent necessity for a reasonably fast interceptor fighter as revealed during the crisis this fall, the Air Ministry have given the Gloster Company an order for 350 more 'Gladiators', while this machine is an obsolescent biplane with a 'suped up' performance of a little over 290 m.p.h., it will help augment the defences against hostile aircraft as it should be turned out in a reasonably short time.

2. It is considered probable that a portion of the additional Gloster 'Gladiators' mentioned above are for use by the Fleet Air Arm for an interim carrier fighter and another portion may be for the Empire.

3. Since writing this report I have heard that the plan for Gloster to build 'Wellingtons' has been cancelled and that Gloster is to build Hawker 'Hurricanes'. 'Wellingtons' are to be built at a new plant which is to be built by Vickers. This would appear to be the outgrowth of recent negotiations whereby Vickers-Armstrong took over the operation of Vickers (aviation) Ltd., and Supermarine and announced expansion of aviation construction.
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From X Date 18 Nov., 1938 Serial No. 1051 File No. 

Subject GREAT BRITAIN AVIATION Boulton Paul Aircraft

Reference

Visite TO BOULTON PAUL AIRCRAFT LTD., WOLVERHAMPTON, STAFFORDSHIRE


1. A visit was made, in company with Colonel W.S. Scanlon, U.S.A., the Military Attaché for Air, to the plant of Boulton Paul Aircraft Ltd., Wolverhampton. Upon arrival it developed that our authorization by the Air Ministry to visit this plant had been an error. The entire plant had been placed on the secret list by the Air Ministry, due to the fact that all work within the plant is in the secret classification. We did, however, have lunch with the Boulton Paul officials and a walk around the plant later. While they were chary with information on their aviation activities, some details of interest were gathered.

2. The plant is located about three miles outside of Wolverhampton on the edge of the airport. It has only been in operation about eighteen months. The main building is about 350' x 500', with additional floor space of about 50,000 ft.

3. It was stated that the Air Ministry now leave armament development practically entirely to the industry. Boulton Paul are doing a considerable amount of armament work, more particularly, it is believed, in regard to machine guns, cannons, and power turrets.

(a) In speaking of cannon, it was stated that they are concentrating on the Hispano Suiza 20 mm. type. They were very well pleased with the accuracy of fire of this model, and consider it superior to the Oerlikon as to controllability and safety. In fact, emphasis was laid on the accuracy of this type. They also mentioned high velocities of the cannon. Although no definite muzzle velocities were obtained, they were stated as being greater than that of the machine gun.

(b) They spoke of working toward the building up of a volume of fire, and stated that they had a volume of 5,000 rounds per minute at the present time. They did not, however, state how many guns were involved or other details in this connection.

(c) They report having no difficulty in cooling guns, but, on the contrary, they have had some difficulty in heating them. They are at present heating their wing guns by means of heat from the exhaust.

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4. A machine gun testing pit, of the ordinary type - that is, a built-up embankment of earth, supported on one side by a brick wall - is located near the factory. For use in testing cannon there is an additional housing on the earth side of the wall approximately 4'x8' and 10 ft. deep, which is filled with shale. Such a device for catching the cannon was found necessary due to the fact that on one occasion a 20 mm. cannon shell reversed its direction in the old style earth embankment and landed on the factory about 200 ft. to the rear.

5. Boulton Paul are developing three planes: a two-seater fighter, a heavy bomber, and a Fleet Air Arm carrier fighter. The details of these planes were not ascertained. It would appear, however, that they consider the provision of a satisfactory carrier fighter their major problem. This might well be realized from consideration of the requirements of the Fleet Air Arm for a plane to meet this need. As mentioned in reference (a), this includes a stressed-skin monoplane, folding within 14 ft. width and to a limited height, built-in flotation, interchangeable struts and floats, stressed for deck landing and catapulting, to carry a maximum number of machine guns (eight are being asked for at present), and also at the present time a light bomb load. It is further understood that provision for an observer or a radio operator is being included in one or more of the fighter types now under development.

6. The two-seater fighter is understood to be an all-metal low-wing monoplane designed for quantity production. It was stated by the Works Manager, who was with Ford in America for twenty years, that it was designed so as to facilitate production and that, while there were a great many square edges and parts that did not conform to present approved aerodynamic practices, they did not seem to lower the machine's performance. According to reports, this machine with a Rolls Royce "Merlin II" engine will have a top speed of 400 or more miles per hour. It will probably be ready for flight tests in February or March next.

MISCELLANEOUS

By SLR Date 21 May 1937
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From............... Date 15 NOV., 1938 Serial No. 1950 File No. (Use official symbols and digit number here O. N. I. index)


Subject AIRCRAFT PRODUCTION - AERONAUTICAL DEVELOPMENT AND RESEARCH.

Reference (Nation reported on)


1. Reference (a) is a report prepared by the Assistant

Military Attaché for Air as the result of his visit to the plant

of the Parnall Aircraft Ltd. It is quoted herewith for information:

"The Parnall Aircraft Ltd., at Yate, near Bristol, and

at Surbiton, is at the moment devoting its efforts to the design

and production of Fraser-Nash aircraft gun turrets.

"There are about 2000 employed at the Yate plant and 1500

at the Surbiton factory.

"In addition to making gun turrets for the Hawker 'Demon'

(2-seater obsolete fighter), Handley Page 'Harrow', Armstrong-

Whitworth 'Whitley' and the Vickers 'Wellington', they are

building tail planes for the Armstrong-Whitworth 'Whitley'.

There are about 280 tail planes still on order.

"The 'Demon' turret is a telescoping affair for the rear

gunner. It is shown in the illustration of the Hawker 'Demon'

in Jane's 'ALL THE WORLD'S AIRCRAFT'.

"The other turrets are for nose, tail, or amidships of

'Harrow', 'Whitley', or 'Wellington', and are operated by a

most ingenious oil driven pump or motor with a very high speed

range. All operations for transversing, rotating and elevating

guns are performed by the operator making natural movements

which are executed by the oil motor.

"The gun platform for amidships of the 'Whitley' can

be dropped below fuselage floor permitting gunner to fire below

as well as above fuselage. Total vertical movement of platform

is 30 inches. This particular turret appeared to be very

complicated and weighed about 455 lbs. These turrets and the

oil motor were all supposed to be still very secret.

"The company is working on the development of a twin engined

fighter with turreted 20 or 23 mm. cannon. This machine carries

a crew of two and will have a computed speed of over 400 m.p.h.

Whether or not this machine was actually under construction or

still on the drawing board was not stated."

RECLASSIFIED

E-0-11455 Dec. 2120 and 5/19 or 44

D.O. decision Dec. 12, 1972

By STS Date MAX. 1973

1. Reference (a) is a report prepared by the Assistant Military Attaché for Air as the result of his visit to the plant of the Bristol Aeroplane Co. Ltd. It is quoted here with for information:

"On a recent visit to the Bristol factory the undersigned saw, by accident, a new bomber, the 'Seafort', which has just been completed and is ready for flight tests. This machine is not unlike the 'Blenheim', being a mid-wing monoplane with retractable undercarriage. It will have a better performance in that it will have a range of 1200 miles with 1000 lbs. of bombs and a 1000 lb. torpedo. With 1000 lbs. bomb load only, its range will be 1800 miles. It is hoped that its maximum speed will be close to 300 m.p.h. It is powered with two 'Taurus' sleeve valve engines with 14 cylinders in two rows. As this engine is still on the secret list, no further data are available.

One of the officials of the Bristol Company stated that they are now producing 14 'Blenheims' per week. The 'Blenheim' is to be modified by increasing the length of the nose 18 inches and not beginning to taper the nose until forward of the pilot's seat, which will give a roomier cockpit with sufficient space for the pilot and navigator-bomber to sit side by side without being too cramped as is the case with the present version of the 'Blenheim'. The range of the 'Blenheim' is to be increased by additional wing tanks. These will give it a claimed range of 1900 miles but a more nearly actual range of about 1200 or 1300 miles. It is understood that the new 'Blenheim' will be built in Canada by the Fairchild Company.

The Mercury XIII engines with which it is fitted are now using 100 octane fuel for take-off so that take-off power of this engine is now raised from 725 B.H.P. to 820 B.H.P.

The engine section of the Bristol Company is producing about 45 engines of various types per week, of which about 50% are still poppet valve engines. It is the intention, as previously reported, eventually to devote their entire facilities to the production of sleeve valve engines and turn over production of poppet valve engines to the 'shadow' industry.

Incidentally, it was stated that the Bristol and Austin shadow factories were each producing 15 to 20 Mercury XIII per week.
ATTACHÉ'S REPORT

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From... Date... Nov. 20, 19... Serial No... 1034... File No...

Source of information...

Subject... ORGANIZATION AVIATION DEVELOPMENT AND RESEARCH... (Section reported on)

AIRCRAFT PRODUCTION...

Reference...

The report, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.

That would give a total production of Bristol engines at present of 75 to 90 per week.

Both the airplane and the engine factories are especially well organized for production methods. In the aircraft factory components are made complete in their respective shops and then assembled in one large shop where there were at least twenty machines in various stages of completion. The Bristol Aeroplane Company is one of the largest and best organized aircraft factories in England.


Reference: (a) Parliamentary Debates, House of Commons, 10 November, 1930.

1. Sir Kingsley Wood, Secretary of State for Air, spoke in the House of Commons on November 10th regarding the present status and the future plans of the R.A.F. Some of his statements were rather vague, particularly those which referred to numbers of aircraft on hand or on order, or numbers of aircraft involved in future expansion. However, other points mentioned are worthy of attention and are noted in this report:

A total of 13,070 recruits was obtained by the end of October. It is not stated, however, that this total is not quite in proportion to the 31,000 previously announced as required for the year.

There are now some 1,200 pilots and some 23,000 airmen and boys being trained as aircraft hands or taught trades.

Some 2,000 pilots are now in training in the Volunteer Reserve.

The number of observers in the Observer Corps now stands at over 13,000, an increase of some 5,000 since April last.

The personnel of the Regular Air Force has been increased since March 31, from 99,000 officers and airmen to nearly 100,000 and is expected to be some 100,000 by June next, but larger numbers will still be required to meet the need of the present and future program.

Sir Kingsley Wood acknowledged valuable assistance that had been rendered him by the seven permanent members of his Panel of Industrial Advisors.

2. Sir Kingsley Wood's general remarks as to the past and present activities and future plans for increasing aircraft production are of particular value and are summarized:

He stated that professional aircraft industry has been considerably expanded, that it is now working at full capacity and many firms are now employing a second shift, and orders have been placed with the industry which will require all its capacity for a considerable period.
(I have noted in two recent inspections that portions of the factories are working twenty-four hours a day.)

"In the last two months labor has been expanded some 15%.

"We have intensified the policy of utilizing the resources of the smaller aircraft firms and they have been given direct orders and sub-contracts for certain types of aircraft, and many extensions of existing works have in fact been approved.

"Another matter which was constantly pressed, and I think quite rightly, was the need to broaden the basis of production. That has been done in a variety of ways. In the first place we have arranged that wherever possible aircraft of a particular type should not only be produced by the firms which originally designed them, but by other firms in the industry and also in the shadow factories, and orders are now being given conditional on the firms making extensive arrangements for sub-contracts.

"To show the extent of our sub-contracting today and following the policy of taking the work to the labor, we have at this moment some 3,500 firms engaged in subcontracting work for aircraft production."

Also mentioned as of the highest importance in expanding aircraft production were the steps taken to utilize industrial resources outside the professional aircraft industry. It was stated that the Air Ministry have today the services of some of the largest organizations in the country. One example is the arrangement with Vickers-Armstrong for the creation of a considerable sub-contracting system for the manufacture of aircraft in which the whole of their organization will be assisting. This firm will control the operations of the present Vickers (aviation) Ltd., and Supermarine — but in addition will assemble planes at a new establishment near Liverpool.
ATTACHE'S REPORT

AGITATION FOR THE FORMATION OF A MINISTRY OF SUPPLY AND FOR THE ESTABLISHMENT OF A COMPULSORY NATIONAL REGISTER BECOMING MORE WIDESPREAD AND VOICIFEROUS.


Endorse: (1) Selected Press Clippings.

1. An Opposition Liberal amendment to the Speech from the Throne was debated in the House of Commons on 17 November, 1938. Its wording was:

"but regret that, although deficiencies both in military and civil defences are admitted by Your Majesty's Ministers as well as serious delay in the execution of the programme of re-armament stated to be necessary by the Service Departments for national safety, no mention is made in the Gracious Speech of the creation of a Ministry of Supply, both to secure efficiency and prevent waste and profiteering."

The principal speech for the amendment was made by Mr. Winston Churchill, who relied heavily upon the war time experience of the Ministry of Munitions and recounted again the deficiencies known to exist by the September crisis. The principal speech against the amendment was made by the Prime Minister who stated that the programme was now getting into full swing and that any changes in organization or supervision would necessarily retard its progress. He ended by announcing the formation of:

"another Advisory Committee of business men, independent of any Department, to whom a firm can come if they feel that their work is being held up by something which they think is unnecessary, or that too much attention is being paid to routine or red tape, and they will be able to call the attention of this Advisory Committee to what they consider to be the fault. The responsibility for correcting the fault must remain with the Service Minister, who is responsible to this House. ...there shall be a direct right of access to the Prime Minister (by the Committee)."

Attention is invited to reference (a) in its entirety. The Liberal Amendment was defeated 325 to 120.

2. Despite the defeat of this formal amendment to the King's Speech, the widespread demand for a Ministry of Supply continues to have wide support, as is evidenced by endorses. Even so loyal a Government paper as the "Daily Telegraph" said on
In November, 1936:-

"Unfortunately, neither discussion nor reflection has sufficed to overcome the Government's 'massive obstinacy,' as Mr. Churchill called it, to a Ministry of Supply. The reasons which they have advanced for this obstinacy are so unsatisfying that one may be excused for suspecting them to be not the real ones - that there are behind their decision other reasons which it is not convenient to disclose."

In urging the adoption of the Liberal Amendment Mr. Churchill said that a deflection of 50 Government M.P.s. would not endanger the present Government "but it would make them act". The Prime Minister pointed out that:-

"...it was impossible for supporters of the Government to vote in favor of the amendment, even though they believed in it, without being disloyal to the Government."

The net result then was only three Government supporters (and these nominal ones) voted in favor of the amendment, but one gathers in conversation and from the press that there is a great body of opinion which is not satisfied with the Government's complacency and willingness to "muddle through."

3. There is even greater support for a Compulsory National Register. One hundred Government M.P.s. are reported to have signed an amendment to the King's Speech which regrets that no mention of a compulsory National Register was made. Some of the most prominent M.P.s. are numbered among these signers. The Political Correspondent of the Daily Telegraph says that it is probable that Mr. Chamberlain will bow to the wishes of so many of his followers. This remains to be seen, but it is believed that such a course of action would be received with great pleasure by a majority of the British, for there is widespread feeling that nothing has been done to prevent a repetition of a situation existing during the last half of September when literally hundreds of thousands of volunteers were turned away by the authorities to whom they applied for assignments.
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From: X Date: 22. Novem. 1938 Serial No: 1082 File No: (Subject report number)

Source of information: The Air Force List

Subject: GREAT BRITAIN AVIATION

Air Ministry expansion and re-organization —

Deputy Directorates


EXPANSION AND REORGANIZATION AT THE AIR MINISTRY — NEW DEPUTY DIRECTORATES


1. Several changes in the Air Ministry organization are indicated in the November Air Force List. The one of most interest from the Naval point of view is the establishment in the Department of the Chief of the Air Staff of a Deputy Directorate of Operations (Naval Cooperation). In the November Air Force List this is shown, through error, as a "Directorate" instead of a Deputy Directorate. That office will be responsible for service training of general reconnaissance squadrons, which includes flying boats, operational policy as regards coast defense, and general liaison with the Admiralty.

2. It will be noted that a Naval officer, Commander S. F. de Courcy-Ireland, R.N., is included in the personnel of that office.

3. The former Deputy Directorate of Operations is now organized into two Deputy Directorates, — one for Home and one for Overseas operations.

4. The Directorate of Staff Duties, the Directorate of Signals, and the Deputy Directorate of Operational Requirements, have been placed directly under the Assistant Chief of the Air Staff.

5. The Directorate of Equipment has now been organized into four instead of three Deputy Directorates, the precise functions of which have not been disclosed.

6. There has been considerable comment in the press as to the establishment of a new department in the Air Ministry, — the Department of Production, but no definite announcement has as yet been made, and report thereof is deferred pending such announcement.
I

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From X Date 22 Nov., 1938 Serial No. 1039 File No.

Source of information Parliamentary Debates - HOUSE OF COMMONS.

Subject GREAT BRITAIN AVIATION Aircraft production - LORD NUFFIELD'S NEW FACTORY FOR PRODUCING "Spitfire" PLANES.

Reference (N.B. Reports are intended to give a broad outline of the subject. A summary of the contents is entered in the space. Mentioning geographical, personal, or political names, and the plot of the report.)

1. In reply to questions in the House of Commons on 16 November, Sir Kingsley Wood stated that the plant being built by Lord Nuffield for the production of "Spitfire" airplanes was authorized on 23 May, 1938; that work began on the site on 15 July; and that the whole of the factory is expected to be completed in August 1939; but that part of the factory will, it is hoped, be available for production in February next.
ISSUED BY THE INTELLIGENCE DIVISION, OFFICE OF CHIEF OF NAVAL OPERATIONS, NAVY DEPARTMENT

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Source of information: Parliamentary Debates - COMMONS

Subject: GREAT BRITAIN AVIATION Aircraft from Canada - "Hampden" type "Canadian Associated Aircraft Ltd.

Reference: (a) Parliamentary Debates, HOUSE OF COMMONS; Vol. 341, No. 7; Wed. 16 Nov. 1938;Cols. 869 and 870

1. The statement of Sir KINGSLEY WOOD, reported in Parliamentary Debates of 16 November, is quoted in part:

"SIR K. WOOD: Negotiations with the representatives of the Canadian industry have now been successfully concluded, and agreements have been signed under which His Majesty's Government in the United Kingdom have placed an initial order for the manufacture of large bomber aircraft; and the Canadian aircraft firms concerned undertake to maintain during the next 10 years a manufacturing capacity available for further potential orders of a similar character if required.

"The contractual arrangements have been made with the new central company, Canadian Associated Aircraft, Limited, which has been brought into being expressly for the purpose of this scheme. That company will control the whole scheme and provide two central establishments, located at Montreal and Toronto, respectively. These two central establishments will themselves in due course develop manufacturing facilities, whilst also serving as central erecting establishments fed by components supplied by six associated aircraft companies, namely:

Canadian Car and Foundry Company, Limited.
Canadian Vickers, Limited.
Fairchild Aircraft, Limited.
Fleet Aircraft, Limited.
National Steel Car Corporation, Limited.
Ottawa Car Manufacturing Company, Limited.

"The initial order will ensure immediate implementation of the plans and will enable the increased potential progressively to be developed. It is the intention that further orders should be placed as and when necessary to maintain the progressive development of the manufacturing potential and the desired flow of production. In addition to..."
the arrangements for group manufacture of large bomber aircraft, negotiations are now proceeding in London with two Canadian companies for the manufacture of fighter and general reconnaissance types, at Fort William and Vancouver, respectively."

"The type of aircraft to be manufactured under the initial order is the "HAMPDEN", which is now in production in this country. The aircraft orders are due for delivery during 1940, and although it would not be in the public interest to disclose the numbers ordered, I can say that the order represents a considerable development of Canadian manufacturing capacity in preparation for the large production programme which will call for aircraft of a still more advanced type running in parallel with the later stages of the initial order."

2. It has been reported (but there is no confirmation of this fact) that the cost would be in the neighborhood of £20,000 (£100,000) per plane.

3. I received some information recently regarding the organization of Canadian Associated Aircraft Ltd. It appears that each of the six associated aircraft companies mentioned above has provided a share of the capital for the new company. The Board of Directors consists of twelve members: - One each from the six companies listed; three others who are prominent Canadian financiers, appointed by the Air Ministry in agreement with the six component companies and who act as senior officers of the Board; and another three who have been selected by the Air Ministry and act directly with the Air Ministry as their representatives on this Board. Furthermore, the number of stockholders in the new company is limited to fifty.

4. This organization was devised by the Air Ministry.
1. Announcements have been made in the press recently of steps for increasing the supply of aircraft. Three of these which appear to be of considerable moment are with respect to Vickers and Supermarine, Handley Page, and Westland. In the former case, Vickers-Armstrongs are taking over control of Vickers (Aviation) Ltd. at Weybridge and the Supermarine Aviation Works at Woolston, Southampton. In addition to the change of control and the probable availability of additional capital for operation of these two plants, a new factory is to be started immediately for the assembly of planes, the parts of which, it is understood, are to be manufactured largely in the various subsidiaries of Vickers-Armstrongs. It is announced that the assembly plant for this work will be located in Flintshire, which is just south of Liverpool.

2. Handley Page, in association with the English Electric Company, are reported to be establishing a sub-contracting system and an erecting plant in Lancashire.

3. John Brown & Company and Associated Electrical Industries Ltd. have taken over control of the Westland Aircraft plant at Yeovil. The plans for expansion of this plant have not been learned. However, the provision for additional capital and assistance of the associated companies will in itself be of great benefit to the Westland Company.

4. The organization of two new plants for the provision of light alloys has been announced. James Booth & Co. (1915) Ltd., of Birmingham, have acquired 31 acres of land on the outskirts of Birmingham on which it is planned to erect factory buildings for the production of light alloys. The South Wales Aluminium Co. Ltd. was registered on 21 October, 1938, as a private company with a capital of £500,000. It is stated that, according to reports in various financial newspapers, the British Aluminium Co. Ltd. and Mr. Philip Hill are interested in the new company.
ATTACHE'S REPORT

From  
From  
Date 6 Dec. 1935  
Serial No. 1159  
File No. 
Source of information Press and Admiralty  
Subject GREAT BRITAIN (AUSTRALIA) NAVY Battleship  
Reference

Enclosure: (A) Press clippings from Daily Telegraph of 2 November and Evening Standard of 14 November, 1935

1. Enclosed herewith are representatives of some recent press comment which indicate that Australia proposes to purchase from Britain a 16-inch gun battleship for the Royal Australian Navy.

2. Conversation with an officer in the Naval Intelligence Division of the Admiralty indicates that this is not true. He stated that undoubtedly more enthusiasm in Australia could be secured in the direction of armaments for defense by advertising the battleship idea rather than in other coastal defense measures. The Admiralty, he said, would not look with favor upon the furnishing of one battleship to Australia, but would rather see the money spent on cruisers and other coastal defense measures.
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From X Date 7 Dec., 1938 Serial No. 1163
Source of information PRESS
Subject GREAT BRITAIN
Navy Turkish Naval Vessels ordered in Gr. Britain

(Turkish reported to be)

(Neutral title as per Indent sheet)

Reference:

Reference.--(The revision, editing, and distribution of reports by G. N. I. will be greatly expedited if a brief summary of the same is enclosed in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

TURKISH NAVAL VESSELS

TO BE BUILT IN GREAT BRITAIN

References: (a) MAL Rep., No. 679. 21 July 1938. Anglo-Turkish Agreement Bill (Arms Credit).
(b) MAL Rep., No. 1064. 4 Nov. 1938. British to Build Ships for Turkey.
(c) MAL CONF., Rep., No. 1054. 15 Nov. 1938. Inspect of Works of Vickers-Armstrongs at Barrow-in-Furness and Newcastle-on-Tyne - Description of Battleship and Carrier Construction. (Par. 52.)


1. Attention is invited to references (a), (b), and (c).

2. The above newspapers carry articles, forwarded herewith, which indicate that Swan, Hunter and Wigham Richardson of Wallsend-on-Tyne have been awarded a contract by the Turkish Government for the construction of 11 coastal vessels, to cost altogether £1,200,000. The total tonnage of these vessels is 13,500.

3. The money for payment of these ships will come from the £16,000,000 credit granted by the British Government to the Turkish Government (see reference (a)). Of this, £10,000,000 is backed by the Export Credit Guarantee Department and will be used for financing Turkish orders to that amount placed in the United Kingdom. The remaining £6,000,000 credit will be used for equipment of Turkish defenses, notably naval vessels.

4. The articles state that this order will improve the unemployment situation at Wallsend, where there have been 2,000 unemployed, principally shipyard workers.
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From:
Date: Dec. 14, 1939
Serial No. 1199
File No. O.M.I. 13/1399

Source of information: House of Commons Debates, 7 December, 1939

Subject: GREAT BRITAIN NAVY AIRCRAFT CARRIERS Personnel

Reference:

Note: (The review, indexing, and distribution of reports by O.M.I. will be greatly expedited if a brief summary of content is supplied in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

Dated: DEC 27 1939

AIRCRAFT CARRIERS - NUMBER OF OFFICERS, MEN AND SQUADRONS

1. The Parliamentary Secretary to the Admiralty was requested to give the number of aircraft carriers at present in commission together with the number of airplaners, officers and other ranks in the complement. The information is given in the following table:

<table>
<thead>
<tr>
<th>Aircraft Carriers</th>
<th>Officers</th>
<th>Men</th>
<th>Aircraft (by squadrons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.M.S. COURAGEOUS</td>
<td>120</td>
<td>1,239</td>
<td>3 Squadrons</td>
</tr>
<tr>
<td>H.M.S. GLORIOUS</td>
<td>123</td>
<td>1,237</td>
<td>4 Squadrons</td>
</tr>
<tr>
<td>H.M.S. EAGLE</td>
<td>77</td>
<td>765</td>
<td>2 Squadrons</td>
</tr>
<tr>
<td>H.M.S. ARK ROYAL</td>
<td>138</td>
<td>1,355</td>
<td>6 Squadrons</td>
</tr>
<tr>
<td>H.M.S. ARGUS</td>
<td>36</td>
<td>452</td>
<td>1 Squadron</td>
</tr>
</tbody>
</table>
ATTACHE’S REPORT

From __________________________ Date 15 Dec., 1938 Serial No. 12110 File No. __________________________

Source of information: Parliamentary Debates—COMMONS, INDUSTRIAL mobilization—Industrial Advisory Panel (Index title as per index above)

Subject: GREAT BRITAIN INDUSTRIAL mobilization—Industrial Advisory Panel

(b) MAL Report No. 1078, of 21 Nov. 1938.
(c) House of Commons Debate, 12 Dec., 1938; Vol. 342, No. 25. (Forwarded with current Publications Report)

1. In accordance with reference (a) reports have been submitted from time to time on the questions bearing on British industrial mobilization. Reference (b) described agitation in recent Parliamentary Debates for the formation of a Ministry of Supply, and for the establishment of a Compulsory National Register.

2. Attention is invited to the House of Commons Debate on 12 December, forwarded with current Publications Report. Column 1617 gives the debates on the rearrangement program, with particular reference to an Industrial Advisory Panel. In the Debates in the House of Commons on 17 November 1938, the Prime Minister mentioned the formation of such a committee or panel. In the Debates of 12 December, the Prime Minister announced the membership of this Panel, which is as follows:

ADDISON, Mr. J.S. - Managing Director of Courtaulds and a Director of Samuel Courtaulds and Co.

BEHRRELL, Sir George - 68 - Chairman of Dunlop Rubber Co. He preceded Sir John Reith as Chairman of Imperial Airways, and is a former President of the Federation of British Industries.

BENNETT, Mr. Peter F.B. - 58 - President of the Federation of British Industries. He is a Director of Imperial Chemical Industries, and head of the Birmingham firm of Joseph Lucas.

CLARK, Mr. J.O.M. - 61 - Chairman of J. & P. Coats, a Director of the Union Bank of Scotland, the Yorkshire Insurance Co., and several trust companies.

CLARKE, Sir Geoffrey - 63 - President of the Associated Chambers of Commerce of Great Britain, Managing Director of the Telegraph Construction and Maintenance Co., Chairman of Calcutta Astramay, and a Director of the F.A. C. Steam Navigation Co.
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From X Date 15 Dec. Serial No. 1210

Source of information

Subject GREAT BRITAIN INDUSTRIAL INDUSTRIAL mobilisation - Industrial Advisory Panel.

Reference

Basis.—The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political causes, and the gist of the report.

B—

COOPER, Mr. Francis D’Arey - 56 - Chairman of Lever Bros., MacFisheries, and a Director of Unilever and the Phoenix Assurance Co.

The Secretary will be Major J.A. DAVIES, Joint secretary to the Supply Board Committee of Imperial Defence.

3. The formation of the Advisory Panel is for the purpose of receiving and reporting on complaints of armament firms who thought that their work was being unduly held up. The function of the Panel, according to the Prime Minister’s statement, will be not only to receive representations as to delays, difficulties, or defects in supply or production concerned with the rearmament program and to suggest remedial action, but it will also be to suggest any general improvements in regard to the execution of the armament program or any measures in regard to the position of industry in time of emergency which their knowledge of industry may dictate to be desirable.

4. The Panel, as will be noted, is composed of men not directly connected with armament firms. These are all of the very highest standing and conversant with so-called big business. They are in this capacity free of any political attachments.

5. There was considerable discussion on the part of the Opposition, headed by Mr. Atlee, particularly in regard to the relationship of the Panel to the Defence Ministers, and the possibility of the members of the Panel making any general recommendations on questions directly to the Prime Minister, thereby going over the heads of the Defence Ministers. The labour viewpoint, expressed by Mr. Greenwood, brought out the intention of the Prime Minister that this Panel should in no way be connected with questions involving labour. The Prime Minister emphasized that this Panel, if unable to obtain satisfaction from any department, would have the right of direct access to the Prime Minister.

6. The Prime Minister defined the difference between panel and committee. The Panel could carry on work and still not require the busy business men to attend every meeting, which would be the case, in his opinion, with a committee.

7. No questions were brought up in the above Debates on the demand for a National Register. There has recently been strong criticism of the Government’s policy on the question of voluntary national service, and its refusal to introduce a Compulsory National Register. The Prime Minister will probably allow a debate on this phase of the subject next week.
PERSONNEL FOR DEFENCE REQUIREMENTS — NUMBERS NECESSARY AND NUMBERS REQUIRED AS OF 31 OCTOBER 1938.


Enclosure: (A) Newspaper clippings (2) — “The Times” and “Manchester Guardian” for 16 Dec. 1938.

1. The Earl of Birkenhead gave the following figures in the House of Lords on 15 Dec., in reply to a motion introduced by the Opposition. The figures tabulated below have been extracted and tabulated from reference (a) for the convenience of the Director of Naval Intelligence:

(a) A.R.P. SERVICES —

<table>
<thead>
<tr>
<th>Service</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Raid Wardens</td>
<td>420,000</td>
<td>100,000</td>
<td>520,000</td>
</tr>
<tr>
<td>First-aid posts</td>
<td>140,000</td>
<td></td>
<td>140,000</td>
</tr>
<tr>
<td>Ambulance drivers &amp; attendants</td>
<td>220,000</td>
<td></td>
<td>220,000</td>
</tr>
<tr>
<td>Rescue &amp; decontamination parties</td>
<td>70,000</td>
<td></td>
<td>70,000</td>
</tr>
<tr>
<td>Misc. (Report centers, etc.)</td>
<td>32,000</td>
<td></td>
<td>32,000</td>
</tr>
<tr>
<td>Aux. fire service</td>
<td>150,000</td>
<td></td>
<td>150,000</td>
</tr>
<tr>
<td>Total</td>
<td>972,000</td>
<td></td>
<td>972,000</td>
</tr>
</tbody>
</table>

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OFFICE OF CHIEF OF NAVAL OPERATIONS
NAVY DEPARTMENT

INTELLIGENCE REPORT

Serial: 1212
Monograph Index Guide No. (To be assigned by W. E. A. G. Staff, Navy. See O. N. I. Index Guide. Make separate report for each such title.)

From: ... X ...
At: ......
Ship, fleet, task group, mission, or person:

Date: 19 Dec., 1938

Reference: 

Source: Official publication

Evaluation: (As reliable, dependable, unverified, etc.)

Subject: GREAT BRITAIN DEFENSE PERSONNEL FOR DEFENSE REQUIREMENTS

(Note reported on) (Main title as per index guide) (Notable) (Make separate report for each title)

Notes: (Here enter careful summary of report, containing substance succinctly stated, include important facts, names, places, dates, etc.)

- 2 -

(b) ROYAL AIR FORCE -
As of 3 Dec. 1938. (Appeal was made for 31,000 recruits at the end of June 1938)

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Obtained to 3 Dec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilots</td>
<td>2,100</td>
</tr>
<tr>
<td>Air Observers</td>
<td>350</td>
</tr>
<tr>
<td>Tradesmen &amp; unskilled men</td>
<td>26,000</td>
</tr>
<tr>
<td>Boys</td>
<td>3,000</td>
</tr>
<tr>
<td>Balloon Squads (10 in No.)</td>
<td>Recruited up to 70% of desired strength</td>
</tr>
<tr>
<td>R.A.F. Volunteer Reserve</td>
<td>2,000 in training</td>
</tr>
</tbody>
</table>

(d) ARMY -
(As of 1 Dec. 1938)

<table>
<thead>
<tr>
<th>Establish</th>
<th>Strength</th>
<th>Deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>221,662</td>
<td>201,138</td>
</tr>
<tr>
<td>Supplementary Reserve</td>
<td>56,396</td>
<td>31,068</td>
</tr>
<tr>
<td>Territorial Army</td>
<td>223,858</td>
<td>200,190</td>
</tr>
</tbody>
</table>

(d) NAVY -

<table>
<thead>
<tr>
<th>Recruits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936-37</td>
</tr>
<tr>
<td>1937-38</td>
</tr>
</tbody>
</table>

7,000          15,797
ATTACHÉ'S REPORT 1004-200

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From X Date 29 Dec., 1938 Serial No. 1241 File No. (Commence new series with January first) (Index paper number from O. N. I. Index)

Source of information Aviation organization

Subject GREAT BRITAIN AVIATION Aviation industry

Reference


Enclosure: (A) Excerpts from referenced article, on "Augmenting Military Production", and "New Factories".

1. The Assistant Naval Attache for Air has recently had access to an article which it is understood may be published later and gives a resume of aviation progress during 1938. All the information contained in this article has been covered by previous reports, but that portion of the article regarding the building up of the establishment for aircraft production is a good resume and is forwarded as an enclosure herewith.

2. In connection with the production development, Sir Kingsley Wood has recently stated that, as compared with the production capacity in May 1938, the capacity by May 1939 will be two or three times as great, and by May 1940 is expected to be four times as great.
ATTACHE'S REPORT

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From... Date... 3 JANUARY 39  Serial No... 20 File No... (Compendium new copies date January 1939)

Source of information: Shipping Magazine.

Subject: GREAT BRITAIN NAVY 1938, World's Warship construction

Reference (Nation reported on) (Index title as per index sheet)

Reference: (a) "Shipbuilding and Shipping Record", 30 Dec. 1938

FORWARDED WITH CURRENT PUBLICATION REPORTS.

1. Attention is invited to an article on the above subject carried in the referenced magazine on p. 31. It is stated that Admiralty contracts for work in shipyards will exceed £37,000,000 throughout 1939, and for materials in this period £11,500,000. It is stated that this means that nearly £50,000,000 will go into circulation in industry from the Admiralty.

2. The article gives briefs of the construction for foreign navies.
ATTACHE'S REPORT

From: [Name redacted]
Date: 10 Jan., 1939
Serial No.: 25
File No.: 1

Source of information: Reliable

Subject: GREAT BRITAIN

FUEL OIL AND GASOLINE STORAGE


1. I am reliably informed that the Government is proceeding with the preliminary work to carry out the underground storage program mentioned in reference (a). There is, however, no evidence that these undertakings are being rushed. By informant tells me that in his opinion this program will not be completed in less than five years.

2. I am told that most of the gasoline storage is, or soon will be, underground. This applies to commercial and Government storage. The standard storage is a cylindrical steel tank thirty feet deep and nine feet in diameter. The standard practice is to dig a pit to take these tanks and then cover them with about three feet of earth. However, more recently it has been decided to cover them with two feet of concrete with one foot of earth on top of that. The latter is the arrangement now in effect for aviation fields.

3. The Anglo-Iranian Oil Company is now installing semi-underground storage for about 90,000 tons of fuel oil at Liardary in South Wales. They are using new type of storage by cutting into a steep hillside and building a series of concrete steps each covering a tank. When the steps are completed it is planned to scrape soil from the hillside above to cover the concrete shelves to a depth of about six feet. The plan includes planting and camouflaging. This company says that they can construct this type of storage for £2-5-0 per ton. My informant says that the Admiralty are skeptical about this figure but as the work is actually in progress it should be checked in the near future.

M. L. 39

ISSUED BY THE INTELLIGENCE DIVISION, OFFICE OF CHIEF OF NAVAL OPERATIONS, NAVY DEPARTMENT

DECLARED

E.O. 11050, Sec. 3(E) and 5(D) or (g)

OSD letter, May 1, 1912

By SLR Date: MAY 31 1912
ATTACHE'S REPORT 1799-4 (A-1-w)

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From: NAVAL ATTACHE'S
Date: 16 Jan., 1939
Serial No.: 40
File No.: (Blank)
Source of information: PRESS and ADMIRALTY FLEET ORDER 5 of 5 JAN., 1939.
Subject: GREAT BRITAIN NAVY FLEET AIR ARM

Reference: (a) Admiralty Fleet Order No. 5 of 5 January, 1939

Enclosure: (A) Press clippings from The Times, Daily Telegraph and Manchester Guardian, 30 December, 1938

1. There have recently appeared quite a number of articles on the expansion of the Fleet Air Arm, announcing that that branch was to be increased from 3,000 to 10,000 officers and to somewhere in the neighborhood of 760 airplanes. Actually, there is little news in these articles as this expansion is merely what will be required to provide planes and men to equip the new aircraft carriers and old battleships and cruisers. In addition to these articles, however, there is a recent announcement in Admiralty Fleet Order that when control of the Fleet Air Arm has been assumed by the Admiralty a separate division called the Fleet Air Arm Division shall be formed as an addition to the three home ports, to which all permanent F.A.A. ratings shall belong, and that all drafting of such personnel shall be carried out from a Naval Shore Air Base.
1. The following information is based on a conversation with the officer in the Admiralty best qualified to speak and included a glimpse at the bow and stern of a model of these ships. Unfortunately the model was covered from turret to turret.

**Tonnage:** 40,000

**Guns:** 8 in. in all arranged in 3 turrets, 2 forward and 1 aft.

**Anti-aircraft Battery:** "Same as KING GEORGE" (6 - 5.25-in. double-purpose guns in eight twin mounts).

**Speed:** 29 knots.

As regards the speed, it was stated that while 29 knots was the designed speed, an additional three quarters of a knot be counted or in an emergency. It was explained that in designing the engine weights an additional 70 tons was allotted over and above the theoretical weights required to give the designed speed - in this case 29 knots. This 70 tons was put into additional safety factors in places where the margin of safety would be most reduced by forcing the plant in an emergency. The only point mentioned in this connection was the turbine blade. It was stated that with this additional 70 tons an added 20,000 horse power or three quarters of a knot at top speed would be attained in an emergency with considerable safety.

2. As regards underwater form, it was stated that in the case of these 40,000 ton ships the Admiralty had found it necessary to depart somewhat from the best form as developed in tank experiments in order to allow for certain limitations in the available dry docks. While the hull forward of the turrets showed nothing unusual, the officer concerned called attention to the unusual form of the stern. It was cut off in a vertical plane giving a quainter stern of about twenty-five feet width. It was said that this arrangement, while largely due to docking considerations, had been found to favorably affect the speed and economy and estimated a pair of nearly one half a knot.
ATTACHE'S REPORT

From: X
Date: 17 Jan., 1939
Serial No.: 67
File No.: 

Source of information: Press.
Subject: GREAT BRITAIN (JUGOSLAVIA) NAVY - torpedoboat destroyers for Jugoslav Navy

Reference: (a) The Times, of 14 Jan. 1939.

1. The following is quoted from the referenced newspaper:

"The torpedo-boat destroyer BEograd, building for the Royal Jugoslav Navy, has just completed a successful full power trial on the Clyde. During an eight-hour continuous trial the high speed of over 36 knots was maintained.

"The machinery and Yarrow boilers of this vessel have been designed and constructed by Yarrow & Co., Limited, who are building the machinery and boiler for the two sister-ships ZAGREB and LJUBLJANA, the hulls of which are under construction at Split, Jugoslavia."
ATTACHÉ'S REPORT

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From: [Blank]  Date: 17 Jan., 1939  Serial No.: 76  File No.: [Blank]

Source of information: Press

Subject: CHINESE ARMY GARRISON AT PETANG

Reference: [Blank]

Plan for establishment of a garrison at Petang announced in Singapore.

Clipping from Daily Telegraph, 6 January, 1939

1. The Singapore correspondent of the Daily Telegraph reports in enclosure that the General Officer Commanding in Malaya announced that a garrison was to be established on Penang Island during 1939. He says that the building of barracks and batteries is already under way, and that the garrison will consist of some hundreds of sappers, gunners, and Indian troops.

Refers to include medium and calibre guns + man a.d. units.
ATTACHE'S REPORT

GREAT BRITAIN
NATIONAL AIR RAID PRECAUTIONS

1. Recently some very illuminating comments on A.R.P. were made by a person who should be well informed on the subject. A summary of these remarks are contained in the following paragraphs.

2. The cause of the original delays in A.R.P. preparation was the fact that most of the questions that required a decision were turned over to numerous committees. No one person on any of the committees was in a position to act on his own, and naturally a great amount of time was consumed in arriving at any conclusions. The conclusions arrived at were in most cases indefinite. No decisions were made as to the best equipment or best methods to be pursued, but reports stated that certain equipment would be suitable or that a certain system was worthy of trial. The studies of committees and the submission of reports required a total of 18 months, and were not completed until last May.

3. Concurrently, there was much delay on the part of the Government in settling the matter of the costs. The Government at first proposed to share 50% of the cost of A.R.P. It was soon noted that this ratio was not acceptable to local authorities. The Government then proposed taking on a 75% share of the cost. This offer was still unacceptable to the majority of local authorities, and the Government finally agreed to a 90-10% basis.

4. In the meantime some of the municipalities had begun A.R.P. work. Nothing, however, was done in London until the 90-10% proposition was made, as Mr. Morris of the L.C.C. (London County Council) at first flatly refused to do anything and insisted that the Government should bear 100% of the cost. This action, or inaction, on the part of the L.C.C. was the reason that London was so far behind the rest of the country.

5. At the present time delay is still greatly hampering progress in the A.R.P. Department. The present cause is apparently a personal jealousy. That such a condition should exist is hard to believe, but that it does exist was stated definitely.

6. Sir John Anderson was made head of the A.R.P. on 31 October, 1938. However, due to the personal attitude of the Home Secretary, Sir Samuel Hoare, under whom the A.R.P. was originally placed, Sir John has not been allowed to assume full charge of the A.R.P. except insofar as the National Register is concerned. The Home Secretary has appointed a Mr. Eady as the Deputy Secretary, and all of the active branches of A.R.P. have been directed to report to Mr. Eady, apparently without reference to Sir John Anderson, and further without reference to Colonel Hedges, who
was originally the active head of A.R.P. This latter officer has now been appointed as Inspector General of A.R.P., which appointment may well be assumed to be a means of relieving him of any authority or responsibility for development work. The present Deputy Secretary, Mr. Rory, is reported as "a person who knew nothing of A.R.P., doesn't yet know anything of it, and never will."

7. Another difficulty under which A.R.P. operates is the fact that the Home Office has no purchasing or contracting organization for obtaining material required. The purchasing is done by the Department of Works and by the War Office, and it is reported that neither of the latter are willing to accept recommendations as to what material will be purchased or from whom. Discounting delays, purchase of material had, however, been well and economically done. On this point it was stated that contracts had been very carefully drawn, and as a further safeguard a costing clause was included, whereby the Government could at any time audit the books of the manufacturer, and in case profits were excessive a reduction in price could be enforced. The inclusion of such a costing clause is, in fact, general in all major contracts. The amount of profit which is considered excessive varies somewhat, depending on the material covered. On material of an apparently novel nature (such as airplanes, presumably), anything in excess of 10% would be considered excessive, whereas for armor plate, not more than 5 or 6% would be allowed.

8. It was stated that aside from the psychological effect, the purchase and distribution of gas masks was a total loss. My informant was of the opinion that the psychological purpose in the purchase and distribution of the masks was not so much to give the populace a sense of security from gas attack as to develop a sense of insecurity by means of bringing the possibility of attack persistently to the mind of the individual. The thought was that through this feeling of insecurity, to prepare the public to accept eagerly the enormous expenditure for rearrangement.

9. The sum of £22,000,000 has been allocated for A.R.P. expenditures for the next fiscal year. This includes grants to local authorities and also the Government share of local expenditures and other A.R.P. Government operating costs. The allotment for the present year has been expended for some time, and the Treasury has instructed that in no cases will the allotments be exceeded. This may be presumed to be another reason why there has been little or no A.R.P. activity since the crisis.
ATTACHE'S REPORT

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From: [Blank]
Date: 20 Jan 1939
Serial No: [Blank]
File No: 63

Source of information: Reliable.

Subject: GREAT BRITAIN NATIONAL AIR RAID PRECAUTIONS.

Reference: [Blank]

10. In a recent announcement, Sir John Anderson intimated that standard plans for A.R.P. shelters have been decided upon, and that £20,000,000 would be expended for this purpose. However it was stated by my informant that standard plans for shelters are not as yet approved—nor has any sum been set aside by the Treasury for their construction.

DECLASSIFIED

E. O. 11652, Sec. 320 and 321 or (B)
OSD letter, May 1, 1972

By SLR
Date: MAY 21 1973

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From X Date 24 Jan., 1939 Serial No. 138 File No.

Source of information: Admiralty

Subject: GREAT BRITAIN NAVY Building Program - Ships completed & due to complete during current financial year.

Reference:

Footnote. - (The review, indexing, and distribution of reports by O.N.I. will be greatly facilitated if a brief report of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

ANTICIPATED DATES OF COMPLETION OF SHIPS DUE TO COMPLETE IN THE FINANCIAL YEAR 1938 (CONTINUED)

References: (a) N.A.L. Report No. 702, 22 July 1938 - Anticipated Dates of Completion of Ships due to Complete in the Financial Year 1938 (continued).


1. There is quoted herewith a letter received from the Admiralty, dated 24 January, 1939:

"With reference to my letter M.F. 8436/38 dated the 19th of July 1938, addressed to Captain Wilson, I have much pleasure in forwarding the enclosed statement giving the anticipated completion periods of H.M. Ships under construction which are shown in the Navy Estimates 1938 as due to complete in the current financial year.

"The following ships have completed and passed into service since my last letter:

CV H.M.S. ARE ROYAL on 16 Nov. 1938.
DD H.M.S. ASHEANTI " 21 Dec. 
DD H.M.S. AUCKLAND " 16 Nov. 
DD H.M.S. EGREM " 10 Nov. 
DD H.M.S. ESKIMO " 30 Dec. 
CL H.M.S. LIVERPOOL " 2 Nov. 
DD H.M.S. MAGRI " 30 Nov. 
DD H.M.S. MUBIN " 7 Dec. 
DD H.M.S. SCORPION " 10 Dec. 
SS H.M.S. TRITON " 9 Nov. 
SS H.M.S. URUSULA " 20 Dec. 
DD H.M.S. SOMALI " 7 Dec. 


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<thead>
<tr>
<th>Name</th>
<th>Anticipated Date of Completion</th>
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<tr>
<td>DD BEDOUIN</td>
<td>Jan.-March 1939</td>
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<td>CL BELFAST</td>
<td>July-Sept.</td>
</tr>
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<td>Am BRAMBLE</td>
<td>Apr.-June</td>
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<td>CL EDINBURGH</td>
<td>Apr.-June</td>
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<td>CL GLOUCESTER</td>
<td>Jan.-March</td>
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<td>DD MASHONA</td>
<td>Jan.-March</td>
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<td>DD MASTABA</td>
<td>Jan.-March</td>
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**From: 25 Jan. Date 1939**

**Serial No.: 96**

**File No.:**

**Subject: GREAT BRITAIN**

**Building Program - Ships on VD**

<table>
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<th>Name</th>
<th>Anticipated Date of Completion</th>
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<tr>
<td><strong>EXX. cruizer</strong> PELICAN</td>
<td>Jan.-March 1939</td>
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<tr>
<td><strong>DD</strong> FUNJARI</td>
<td>Jan.-March</td>
</tr>
<tr>
<td><strong>Survey ship</strong> SCOTT</td>
<td>Jan.-March</td>
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<tr>
<td><strong>AM</strong> SPEEODY</td>
<td>Apr.-June</td>
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<td><strong>DD</strong> TARTAR</td>
<td>Jan.-March</td>
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<td><strong>SS</strong> THEMIS</td>
<td>Apr.-June</td>
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<td><strong>SS</strong> TRIBUNE</td>
<td>July-Sept.</td>
</tr>
<tr>
<td><strong>SS</strong> TRIPHM</td>
<td>Jan.-March</td>
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<tr>
<td>4 M.T.B.'s</td>
<td>Jan.-March</td>
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Reference

Note:—(The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

**Ships due to Complete-contd.** -2-

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**Director**

|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Materials in stock**


**Ships**


**Ships due to Complete-contd.** -2-

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**Reference**

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**Ships due to Complete-contd.** -2-
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From: [X]  Date: 25 Jan., 1939  Serial No. 94  File No.  

(Station reported on) GREAT BRITAIN AVIATION -- Air Ministry Changes  

Subject: 

(Mention number on which information is contained)

Reference: 


-- AIR MINISTRY CHANGES

Enclosure: (A) Press clipping from "Manchester Guardian", 18 Jan. 1939


2. Regarding this appointment, it is noteworthy that Air Marshal Mitchell has been the Air Member for Personnel at the Air Ministry only about 18 months. It is believed that the early change is in no way any reflection on the ability of this officer in his present duties. On the other hand, the political situation has made this area one of great importance, and it may be taken that the appointment of Air Marshal Mitchell to the post is mutually indicative of the importance of it and the general high regard of the ability of that officer. Air Marshal Mitchell has expressed himself as having definite preference for field duty to duty at the Air Ministry.

3. Another change officially announced in the R.A.F. organization is in the Office of the Deputy Chief of the Air Staff. That Office was formerly Directorate of Operations and Intelligence, which was subdivided into Deputy Directorates of Plans, Operations (Home), Operations (Overseas), Operations (Naval Co-operation), and Intelligence. The Deputy Directorates of Plans and Intelligence have been raised to the status of Directorates. Also, in the Directorate of the Assistant Chief of Staff, the Deputy Directorate of Operational Requirements has been raised to the status of a Directorate.
ATTACHE’S REPORT

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From X Date 27 Jan., 1939 Serial No. 99
Source of information PRESS
Subject GREAT BRITAIN NAVY Retired Naval officers, call to by Admiralty
Reference

Enclosure: (A) Clipping from "DAILY TELEGRAPH" of 26 Jan. 1939.

1. Considerable comment in the press and in radio broadcasts has been made since the Admiralty announcement of 25 January that it is prepared to consider applications for re-employment for Home Service from Lieutenants and Lieutenant-Commanders on the Retired Lists. Officers under forty are preferred and the employment may be expected to last for three years.

2. Retired officers will receive full pay of their rank on the Retired List, with a bonus of 15 per cent., as well as allowances as for active list officers.

3. The action of the Admiralty in calling retired naval officers to active duty is not entirely unexpected, because it has been clear for some time that the great expansion of the Navy under the Rearmament Program would severely tax its resources in personnel.
ATTACHE'S REPORT

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From: I Date: Feb. 2, 1939 Serial No. 119 File No. No.

Source of information Official Publication.

Subject: GREAT BRITAIN

Reference: Navy—(The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

NEW CLASS OF ROYAL FLEET RESERVE ESTABLISHED FOR SERVICE IN EMERGENCY: CLASS D - IMMEDIATE RESERVE.


1. During the September crisis one of the difficulties attendant upon manning reserve ships was the impossibility of calling up reserves in advance of a Royal Proclamation. Designed to overcome this deficiency and to provide a class of the Royal Fleet Reserve available for immediate service upon Admiralty call in time of emergency, reference (a) has been promulgated.

2. Conditions of service in class D are briefed for convenience:

(a) Eligibility - Serving leading and A.B. ratings of practically all branches upon discharge and present members of class B of the Royal Fleet Reserve.

(b) Retainer Pay - One shilling per day in peace time.

(c) Enrolment - Five years.

(d) Training - Fourteen days in each alternate year at active duty pay.

(e) Upon being called up in emergency a temporary engagement for three months may be expected, if services are required.

(f) Kit upkeep allowances will be paid and a bounty of five pounds upon being called up.

(g) Civil occupation must permit members of this class of the reserve being immediately available for naval service.
ATTACHE'S REPORT

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From X
Date July 1, 1939
Serial No. 120
File No.

Source of information: PRESS

Subject: GREAT BRITAIN (EGYPT) NAVY EGYPT

(Nation reported on)

Reference:

BRITISH NAVAL ADVISER FOR EGYPT


Enclosure: (A) Clipping from "Sunday Times" - 29 Jan. 1939.

1. The enclosure forwarded herewith states that a British Naval officer, Captain G. T. Philip, has been appointed as a Naval Adviser to the British Military Mission in Egypt.

2. Reference (a) stated that the then published notice to this effect was verified by the British Admiralty, although it had not been intended to let this information come out in the press at that time.

3. Attention is invited to the remarks in the enclosure to the effect that the proposed program of naval units for Egypt has been modified. It is of interest to note that the light cruisers which are contemplated are to be somewhat different from the modern light cruiser, particularly in the radius of action. According to this article these will be a compromise between coast defense vessels and special anti-aircraft cruisers of the British Navy.
ATTACHÉ'S REPORT

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From: [Redacted]
Date: 9 Feb., 1939
Serial No.: 130
File No.: [Redacted]

Source of information: PRESS.

Subject: GREAT BRITAIN - NAVY - Regional defense - Air raid precautions.

Reference: [Redacted]

Enclosures: (A) Clipping from Manchester Guardian - 3 Feb. 1939.
(B) Daily Mail - 3 Feb. 1939.

1. The enclosures herewith are representative of press comment during the last week which followed Sir John Anderson's announcement of new schemes for the organization of civil defense against air raids. These two schemes are based on the division of the country into twelve Air Raid Precautions Zones, which are shown roughly on the Daily Mail clipping herewith.

2. Under the peacetime scheme regional officers will be distributed throughout these twelve areas. These will be full-time paid experts under the Home Office, and it is expected that their appointment will reduce the need for reference to the Home Office in London on problems relating to air raid precautions. The senior regional officer in each district, according to the announcement, will have power to approve on behalf of his department the air raid precautions schemes of the local authorities.

3. When war breaks out the war scheme comes into effect and the senior regional officer becomes one member of the staff of the Regional Commissioner.

4. The thought in this new organization is that a district may be entirely cut off from other parts of the country. In this case the Regional Commissioner will become for practical purposes the commander-in-chief and supreme authority for civil defense in his particular area. The Regional Commissioner, according to Sir John Anderson's announcement, will be granted full power and authority to administer his area under the Defence of the Realm Act. What powers are to be given to the Commissioner are known now only by those who are taking part in the organization. The legislation required to put this into effect will be drafted and will not be promulgated in peacetime.
ATTACHÉ'S REPORT

1. Under date of 7 February, 1939, the Foreign Office has informed the Embassy (Let.No. A 842/87/46) of the particulars of the Annual Program of Naval Construction for 1939. Particulars of vessels of previous annual programs which have not been laid down and which it is the intention to lay down during the period covered by the 1939 Annual Program are also given.

2. In addition to the foregoing and in accordance with Art. 12(b) of the London Naval Treaty of 1936, details are given of ten light surface vessels, Sub-category C, one light surface vessel, Sub-category C, and H.M.S. UNICORN, Aircraft Carrier.

3. The above information is given herewith for purposes of ready reference:

LONDON NAVAL TREATY - 1936:

Article 12(a).

Annual Programme of Construction - 1939

<table>
<thead>
<tr>
<th>Category and Sub-Category</th>
<th>Caliber of Largest Gun</th>
<th>Number of Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Ships, Sub-category (a)</td>
<td>16 inch</td>
<td>2</td>
</tr>
<tr>
<td>Aircraft Carrier, Sub-category (a)</td>
<td>4.5 inch</td>
<td>1</td>
</tr>
<tr>
<td>Light Surface Vessels, Sub-category (b)</td>
<td>3 inch</td>
<td>3</td>
</tr>
<tr>
<td>Light Surface Vessels, Sub-category (c)</td>
<td>4.7 inch</td>
<td>17</td>
</tr>
<tr>
<td>Light Surface Vessels, Sub-category (c)</td>
<td>4 inch</td>
<td>21</td>
</tr>
<tr>
<td>Light Surface Vessels, Sub-category (c)</td>
<td>3 inch</td>
<td>4</td>
</tr>
</tbody>
</table>

Vessels included in previous annual programmes and declarations that have not yet been laid down or acquired, and which it is intended to lay down or acquire during the period covered by the Annual Programme 1939.

<table>
<thead>
<tr>
<th>Category and Sub-Category</th>
<th>Caliber of Largest Gun</th>
<th>No. of Vessels</th>
<th>Names of Vessels</th>
</tr>
</thead>
</table>
| 1937 Program - D.O | Light Surface Vessels (c) | 4.7 inch | 2 | LANCE LAPORAY

Reference:

(Particulars of Annual Program-1939; Particulars of Vessels of Previous Annual Programs and Declarations which have not yet been laid down, etc.)
### ATTACHE'S REPORT

Forward seven copies (original and six carbon copies) this number is necessary because of the limited personnel in O.N.I. and because of the urgency for quickly disseminating information from attachés. These copies will be distributed by O.N.I. as per instructions elsewhere, according to subject matter.

**From:** X  
**Date:** 11 Feb., 1939  
**Serial No.:** 49  
**Pile No.:** 12092-8

**Source of information:**  
**Subject:** GREAT BRITAIN  
**Part of Annual Program-1939;**  
**NAVY Part of previous Ann. Prog's**

**Reference:**

**Notes:** (The precise and detailed data of this memorandum will be completely entered in the same manner as the summary of the main text is entered in this manner. Mentioning geographical, personal, or political names, and the like in the memo.)

[**LONDON NAVAL TREATY-1936** -2-](Article 15 - continued)

<table>
<thead>
<tr>
<th>Category and Sub-category</th>
<th>Caliber of Largest Gun</th>
<th>No. of Vessels</th>
<th>Names of Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1938 Programme</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Ships</td>
<td>(a) 16 inch</td>
<td>2</td>
<td>LION TEMERAIRE</td>
</tr>
<tr>
<td>Light Surface Vessels</td>
<td>(b) 6 inch</td>
<td>4</td>
<td>COTTON JAMAICA</td>
</tr>
<tr>
<td>Light Surface Vessels</td>
<td>(b) 5.25 inch</td>
<td>1</td>
<td>SCYLLA</td>
</tr>
<tr>
<td>Light Surface Vessels</td>
<td>(c) 4 inch</td>
<td>3</td>
<td>ARDIEL LATONA</td>
</tr>
<tr>
<td>Aircraft Carrier</td>
<td>(a) 4.5 inch</td>
<td>1</td>
<td>IMP LICABLE</td>
</tr>
</tbody>
</table>

The following vessel, included in the 1938 Annual Programme as an auxiliary vessel, and therefore not notified at the time under Article 12(a), has not yet been laid down and, for reasons which appear in the note below, is now notified under Article 16 -

**Fleet Air Arm Supply and Repair Ship**

**H.M.S. UNICORN**

Category and Sub-category - Aircraft Carrier (a)*  
Caliber of largest gun - 4 inch.

*NOTE: When provision was first made for this vessel in the programme of New Construction presented to Parliament in 1938, the details of the design had not been settled in view of her functions His Majesty's Government naturally regarded her as an auxiliary vessel. On further consideration it became apparent that a flight deck would be needed to be incorporated in order to allow repaired aircraft to fly off and land on for testing purposes. For this reason the ship is now reported as falling technically within the aircraft carrier category. Nevertheless, His Majesty's Government desire to emphasize that she is designed primarily for the repair of aircraft rather than for their carriage or operation.
ATTACHÉ’S REPORT

From X Date 11 Feb., 1959 Serial No. 149 File No. (Contents of this report are secret. These copies will be distributed by O. N. I. as per individual's and industries, according to subject matter.)

Source of information:

Subject: GREAT BRITAIN Part of Annual Program—1939; Navy, Part of previous Ann. Programs. (Index title or par index sheet)

Reference: (LONDON NAVAL TREATY—1936), continued

Particulars Communicated Under Article 13(b):

Name or designation: 10 vessels; names not allocated.

Category and sub-category: Light surface vessels (o).

Standard displacement: Tons ——- 890 Metric tons ——- 904

Length at waterline at std. disp.: 272 ft.

Extreme beam at or below waterline at standard displacement: 28 ft. 2 in.

Mean draught at standard displacement: 7 ft. 11 in.

Designed horse-power: 19,000

Designed speed in knots: 32 1/2

Type of machinery: Geared turbines.

Type of fuel: Oil.

No. & caliber of all guns of 3" (76 mm.) caliber & above: Six 4-in.

Approx. no. of guns of less than 3" (76 mm.) caliber: Eight.

Number of torpedo tubes: Nil.

Whether designed to lay mines: No.

Approx. no. of aircraft for which provision is to be made: Nil.

Date of completion:

Name or designation: One vessel; name not allocated.

Category and sub-category: Light surface vessel (o).

Standard displacement: Tons ——- 250 Metric tons ——- 2692

Length at waterline at std. disp.: 410 ft.

Extreme beam at or below waterline at standard displacement: 39 ft.

Mean draught at standard displacement: 11 ft.

Designed horse-power: 72,000

Designed speed in knots: 39 3/4

Type of machinery: Geared turbines.

Type of fuel: Oil.

No. & caliber of all guns of 3" (76 mm.) caliber & above: Six 4-in.

Approx. no. of guns of less than 3" (76 mm.) caliber: Twelve.

No. of torpedo tubes: Nil.

Whether designed to lay mines: Yes.

Approx. no. of aircraft for which provision is to be made: Nil.

Date of completion:

Note: The above data is furnished by the Ministry of Supply of the United Kingdom and is taken from their official records and is subject to alteration at any time.

 shortcomings in any way, unless otherwise specified. Such data is subject to alteration at any time.

Issued as 149 on the Intelligence Division, Office of Chief of Naval Operations, Navy Department.
**ATTACHE'S REPORT**

**From:** Document

**Date:** 11 Feb., 1939

**Serial No.:** 149

**File No.:** Document

**Source of Information:** Document

**Subject:** GREAT BRITAIN NAVY Particul of Annual Program-1939;

**Reference:** Document

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**Particulars Communicated Under Article 12(b).**

<table>
<thead>
<tr>
<th>Name or designation</th>
<th>UNICORN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category &amp; sub-category</td>
<td>Aircraft Carrier (a) Fleet Air Arm Supply and Repair Ship (See also report made under Art.15 for 1939).</td>
</tr>
</tbody>
</table>

**Standard displacement**

| Length at waterline at std.displ.| 567 ft. |
| Extreme beam at or below waterline at standard displacement | 90 ft. |
| Mean draught at standard displ. | 18 ft. 9 in. |

**Designated horse-power**

- 40,000.

**Designed speed in knots**

- 24

**Type of machinery**

- Geared turbines.

**Type of fuel**

- Oil.

**No. & caliber of all guns of 3"**

- Eight 4-in.

**Approx no. of guns of less than 3" (76 mm.) caliber & above**

- Eleven.

**Number of torpedo tubes**

- None.

**Whether designed to lay mines**

- No.

**Approx no. of aircraft for which provision is to be made**

- 27.

**Date of completion**

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**DECLASSIFIED**

E.O. 11652, Sec. 3(D) and 5(D) or (E)

OSD letter, May 1, 1973

By SLR

Date: May 21, 1973
1. The Armstrong Whitworth plant is located at three different points in and around Coventry. The design departments, machine shops, and smaller parts are at Whitley; the large erection hangars at about two miles to the eastward on an airport which is used almost exclusively by Armstrong Whitworth; and some of the aircraft work is also done at the Works of Armstrong Siddeley Motors in the central part of Coventry. There is another plant at Hamble where the "Ensigns" were constructed. It was stated that about 4400 men are employed in the aircraft works at Coventry, and about 1000 at Hamble, although the output reported does not seem to justify such a large force. Armstrong Whitworth have not started working in two shifts as yet but the single shift is working about 12 hours a day.

2. The production reported was three "Whitleys" per week. It was stated that they expect to be working on the "Whitleys" for another year and a half or two years. The order for "Whitley III", which is the type with the Armstrong Siddeley engine, is about completed and work has already begun on "Whitley IV", the type with the Rolls Royce engine.

3. The bomb carrying space in all the "Whitleys" is commodious but the exact provision for bomb carrying was not learned. It is believed, however, that in the "Whitley IV" provision is made for carrying two 2000-lb. bombs. In all of the "Whitleys" there are two double spaces for bombs in the bottom of the fuselage and the wings have six spaces each, three on each side of the engine, each wing space being suitable for a 100-lb. or smaller bomb.

4. The "Whitley III" has a power turret in the nose for twin mount, a manual turret in the tail for a single gun, and a "dustbin" turret in the middle of the fuselage which can be lowered underneath. The "dustbin" type appears to be very heavy, estimated 300 lbs. without guns installed and exclusive of operating gear for lowering which is installed as a part of the fuselage, and the drag in the lowered position must be excessive.

5. A number of "Whitleys" have been delivered without nose turrets for the simple reason that turrets were not available at the time of completion of the planes and deliveries of planes were made with the idea that the turrets would be installed at a later date.

6. In the "Whitley IV" the machine gun armament has been considerably improved. There is a power turret in the nose believed to be a two-gun, and a power turret in the tail, probably a four-gun mount, and the "dustbin" has been eliminated.
7. The gasoline capacity has been increased by about 250 gallons in the "Whitley IV" by putting additional 125-gallon gasoline tanks in the leading edge of the wing where oil tanks were installed in the early "Whitleys", the oil tanks of the "Whitley IV" being installed in the engine nacelle.

8. The speed of the "Whitley IV" was stated to be between 245 and 250 miles per hour, and a range with normal tankage approximately 1400 miles as compared with the 1250 miles of the previous types. Increased range of all types can be obtained by installation of removable tanks in the bomb compartments in the fuselage.

9. Mention was made of a "Whitley V" but no information could be obtained as to wherein this type differs from the previous ones. However, there was a "Whitley" plane flying on the day of my visit, as a flying test bench for the Armstrong Whitworth "Deerhound" engine. This engine was stated to be a three-row (5 each) radial developing 1200 H.P. on 87 octane fuel. It is hoped to build the power up to 1500.

10. Armstrong Whitworth are doing considerable amount of work on the use of wood, not because there is any idea that a wooden plane can be built the equal of metal construction, but in order to provide for possible shortage of metal aircraft construction material and also to make use of labor qualified to build wooden planes. A wooden wing for use in the "Whitleys" has been completed. It is not planned to substitute wooden wings on the "Whitleys", however, unless circumstances require.

11. Their latest project, which is still very much on the secret list, is a two-engine bomber made of wood and steel. The wings are wood spars with internal wood bracing, to be covered with plywood. The only compressed wood used is as reinforcement of the main spar members at the wing roots in order to take bolted metal fittings. The fuselage is to be of steel tube construction and plywood covered, the plywood to be a covering only and not combine any monocoque features. The wing loading is to be between 30 and 35 lbs. Take-off characteristics are expected to be such that the plane will clear 60 feet with 700 yard run as compared to the standard requirement of clearing 66 feet with 660 yard run. While this is to be a plane considerably smaller than the "Whitley", its bomb carrying capacity was stated to be somewhat in excess. There will be a four-gun power turret about midway in the fuselage. The fuselage itself will form a streamlining forward of the turret, reducing considerably the drag as compared with present turret installations. There will be no nose or tail turret but there will

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**TABLE:**

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Manufacturer</th>
<th>Engine</th>
<th>Speed</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Whitley IV&quot;</td>
<td>Armstrong Whitworth</td>
<td>1200 H.P.</td>
<td>245-250 mph</td>
<td>1400 miles</td>
</tr>
<tr>
<td>&quot;Whitley V&quot;</td>
<td>Armstrong Whitworth</td>
<td>1500 H.P.</td>
<td>245-250 mph</td>
<td>1500 miles</td>
</tr>
</tbody>
</table>

**NOTE:**

For further details or for O.N.I. please contact the NAVAL OPERATIONS, NAVY DEPARTMENT.
be a "dustbin" type underneath the fuselage to carry a twin mount. Armstrong Whitworth stated that they had hoped to have this plane flying by the autumn of this year but it was rather gathered from the tone of voice that it was not expected that this would be realized. It was stated that two of the wood - steel planes could be produced for the effort required to produce one of a similar all-metal construction.

12. It was stated that wind tunnel tests indicated that in these plane difficulties were not expected with lateral control due to the high wing loading. However, in this connection, I was shown a device for overcoming difficulties of lateral control on planes of high wing loading and it may be that the usual difficulties of lateral control under such conditions are to be obviated in the case of the projected plane by the use of this device. Essentially this is an upward acting flap which acts as an auxiliary aileron. This upward flap does not operate for an aileron throw of less than approximately 12 degrees. However, further up-motion of the aileron causes this flap to raise above the wing and to give an additional downward force on the high wing. This flap is naturally never brought into action on the side having the down aileron.

13. A somewhat similar flap having an up-motion has also been devised for use as a brake in diving. This flap is installed as an upwilling flap above the usual down flaps. For diving, both of these flaps can be opened but the upward flap does not come into operation for the first 20 or so degrees of that downward flap movement. While the drag of the upper auxiliary flap has some braking effect, its main advantage is in partially counteracting the excessive torsional force on the lower flap when opened full in a dive.

14. Armstrong Whitworth have in the past done some work on a development of bombing planes for ground catapulting or assisted take-off. However, this project is at the present time dormant. This is due not only to the fact that all energy is being concentrated on production of the "Whitley" and on the development of the wooden bomber, but also to the fact that progress on this project in the past has been so little as to discourage ideas thought on this possibility at the present time. It was stated as the belief of the Armstrong Whitworth personnel that such project at any other plant where it had been pursued at all was in the same status.

15. In the wind tunnel some investigation is being done on the handling of engine cooling as a development of the Mercier idea. The model being used for this work shows a completely enclosed nose.
The cooling air is taken in through openings in the leading edge, then forward around the cylinders, and exhausted through a cooling arrangement somewhat similar to the present gill practice in air cooled engines, except of course the gills are well forward of their location in present installations. The result is a beautifully streamlined engine nacelle. For this purpose they are contemplating a smaller diameter engine than now in use.

16. During the course of the visit, I overheard one end of a telephone conversation regarding the installation of a higher-powered engine in the "Ensigns". Four engines were apparently mentioned as possibilities, one, an unknown which the Armstrong Whitworth Company apparently had instructions "not to consider at the present time"; the Bristol "Hercules", which was stated as not having yet proved itself; the Pratt Whitney two-row radial; and the Wright "Cyclone". The Armstrong Whitworth Company stated as the preference the "Cyclone" engine, giving as the reason for this preference the fact that it enjoyed a better reputation in the European air lines.

17. My attention was called to a "boiler" used for internal plane heating. The heating element is a coil of 14-inch flexible piping, the coil being about 14 inches long and 7 inches diameter. These coils contained the circulating water around which the exhaust gases are passed. It was stated that two of these coils gave more heat than is required and they are now reducing the size of their unit. They much preferred this coil type to the standard heater.
1. The Civil Lord of the Admiralty (Colonel Llewelin) made the following statement in the House of Commons on 14 February, 1939 -

"Courses for seamen in defensive weapons have not yet begun, but will do so very shortly. As regards the Merchant Navy Defence Course Part I as applied to officers of the deck branch, who will handle the defensive armaments, 6,436 have received training, or approximately 43 per cent. Part II is open to deck officers other than masters in command who have completed Part I, and 1,121 officers have attended the course. Owing to the constant flow of officers entering and leaving the Merchant Navy, it is impracticable to forecast when all will have completed both parts of the course."

2. It has been learned on good authority that upon arrival in home ports of merchant marine vessels they are being fitted for paravanes.

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**MERCANTILE MARINE (DEFENSIVE MEASURES)***

<table>
<thead>
<tr>
<th>Reference</th>
</tr>
</thead>
</table>

*Stat.: (The review, indexing, and distribution of reports by O.N.I. will be greatly expedited if a brief summary of the elements is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)*
From:  
Date:  21 Feb., 1939  
Serial No.  173  
Source of information: New Chronicles, 17 Feb. 1939  
Subject: GREAT BRITAIN (TURKEY)  

Reference:

TURKISH NAVAL VESSELS TO BE BUILT IN GREAT BRITAIN

1. The above source states that the Turkish Government have placed contracts for four destroyers, two to be built at Dumbarton and two at Barrow-in-Furness.
Forward area copies (original and air carbon); this number is necessary because of the limited personnel in O. M. I. and because of the urgency for quickly disseminating information from attachés. These copies will be distributed by O. M. I. as per route or otherwise, according to subject matter.

From: X Date: 25 Feb., 19... Serial No. ... File No. ...
Source of information: 1938 SUPPLEMENTARY ESTIMATE, AIR SERVICES, 2/28/39
Subject: GREAT BRITAIN AVIATION SUPPLEMENTARY AIR ESTIMATES, 1938.

Reference: (No report or index)

Enclosure: (A) Newspaper Clippings (B).

1. Six copies of the report on the Supplementary Estimate, Air Services, 1938, were forwarded with Publications Report on 24 February, 1939. This is the second Supplementary Estimate, Air Services, 1938, the previous Estimate having been presented, dated July 11th, 1938. The Estimate shows, among other things, an increase in expenditures of £3,132,000 for aircraft and balloons and £2,318,400 for new works, additions and alterations to R.A.F. stations.

The total Air Estimate for the year are shown as £184,501,100.

2. As stated in the explanation, the main purposes of this Estimate are to provide for additional personnel to be borne and for further expenditure to be incurred during the current financial year, in consequence of the acceleration which is taking place in the expansion of the Royal Air Force.

The present maximum number of personnel authorized to be borne on Vote A is 96,000, but the satisfactory response to the calls for recruits has resulted in that number being almost reached by the present date. In order to permit the present level of recruiting to be maintained it is desired that the maximum may be increased to 102,000.

Since the Supplementary Estimate of July, 1938, greater progress than was then expected has been made in the deliveries of airframes and engines, in the construction of stations and factories, in measures of passive defence and in the extension of the balloon barrage scheme.
(b) N.A. London Report No. 230 of 7 March, 1938
(c) N.A. London Report No. 561 of 8 June, 1938
(d) N.A. London Report No. 972 of 1 October, 1938
(e) N.A. London Report No. 186 of 28 February, 1939

Enclosure: (A) Various press clippings

1. The British Navy Estimates were received in this office 28 February, 1939, and carry the date of 23 February, 1939. The provision for the Naval Service in 1939 is £147,779,000. This compares with £125,307,500 provided in the original and Supplementary Estimates of 1938 and represents an increase of £22,471,500 over that year. In addition, the sum of £1,620,000 is required in 1939 for the service of previous issues from the Consolidated Fund under the Defence Loan Acts.

2. The total provision thus required for 1939 is £149,399,000 compared with £126,117,500 in 1938, an increase of £23,281,500.

3. Of the total required for 1939, £206,000,000 will be furnished from borrowed money as against £200,000,000 in 1938; thus £69,399,000 will have to be met from revenue in 1939 against £96,117,500 in 1938, a decrease of £26,718,500.

4. Attention is invited to reference (a) which gave a brief outline of the Navy Estimates for 1938 and reference (e) of the Supplementary Estimates of the same financial year. The figures mentioned above for 1938 occur in these two references.

5. The largest element in the increase over last year’s Navy Estimates is the item of new construction. This is largely due to the fact that at the present time vessels of the three programs of 1936, 1937, and 1938 are now at a stage at which the heaviest expenditure is being incurred.

6. For ready reference, the new construction program for 1939 is as follows:

2 Capital ships
1 Aircraft Carrier
4 Cruisers
2 Flotillas of Destroyers
4 Submarines
20 Fast Escort Vessels
ATTACHÉ'S REPORT

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From_21
Date 1 March 1939
Serial No._
File No._

Source of information

Subject GREAT BRITAIN

Reference

Note:—(The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

-2-

2 Escort Vessels (normal type)
10 Minesweepers
1 Fast Minelayer
1 Depot Ship for Motor Torpedo Boats
1 River Gunboat
1 Hospital Ship
6 Motor Torpedo Boats
2 Boom Defence Vessels
1 Fleet Target Service Tug and a number of miscellaneous small craft

7. As noted in reference (x) and following reports on the same subject, the 1938 Navy Estimates did not include any destroyers. This was the subject of considerable amount of adverse criticism in Parliament and in the press. When the Supplementary Estimates were issued no destroyers were included in them. In the 1939 Estimates, however, two destroyer flotillas (16 vessels) are provided for. In the principal categories of ships, therefore, the 1939 program is larger than that of 1938 by the destroyer flotillas, 20 fast escort vessels of a new type, and 10 minesweepers. A new hospital ship is scheduled to replace the old MAINE. Provision is also made for the start of work on a new Royal Yacht to replace the "Victoria and Albert". The total cost of the 1939 program, excluding the Royal Yacht, is given as £60,500,000, and it is stated that outside of new construction the heaviest increases this year are on account of the Fleet Air Arm.

8. The statement of the First Lord of the Admiralty relating to the Navy Estimates gives a brief outline of the year's progress in Naval Treaties.

9. It also states that there have been no major changes in the distribution of the Fleet during the year except the transfer of the Battle Cruiser Squadron from the Mediterranean to the Home Station.

10. Statements are given relative to the progress of work on aircraft carriers, cruisers, etc. which have in the main been covered from time to time by reports from this office. The same is true of the statement relating to Fleet activities, which will therefore not be repeated here.

11. The statement comments on the Fleet Air Arm and says that steady progress is being made in the arrangements for the assumption of administrative control by the Admiralty. The difficulties,
according to the statement, connected with this transfer have been greatly increased by the expansion of the Fleet Air Arm. The report states that a Rear-Admiral will be appointed to administer the Royal Naval Air Stations. Further comment is made of the fact that a short service scheme for pilot and observer officers has been instituted providing for 7 years service in the first instance followed by 5 years in the reserve.

12. The title of the member of the Board of Admiralty responsible for naval air matters has been altered to the Fifth Sea Lord.

13. One of the most interesting points of the estimates for 1939 is the fact that the personnel of the Navy is to be reduced by 13,000 to 133,000. The original 1938 estimates provided for a total Naval Personnel of 149,000. This was increased by a Supplementary Estimate (14 Nov., 1938) to 140,000 (maximum) as a result of the mobilization of the Fleet. This Supplementary Estimate stated that it was too early to give exact numbers which would be carried at the end of the financial year, but it was possible that about 121,000 may be reached. The excess over the original 119,000 was explained as due to inclusion of Fleet Air Arm personnel. In the reduction to 133,000 of the 1939 estimates, there is therefore really an increase over the original 1938 estimate, of 14,000. References (4) and (6) have outlined the difficulties of the admiralty in meeting the increase required in personnel for manning of the new ships that are scheduled to go into commission in the next few years. It must be remembered that the shortage is in the skilled artificer classes, particularly in the ordnance artificers. The mobilization of the British fleet during the crisis of September 1938 indicated that there would be no shortage of man power.

14. The number of employees of the dockyards at home (exclusive of those engaged on a temporary or "casual" basis) is given as 65,409 estimated for 1939, as against 43,700 for 1938. Of the number given for 1939, the total established men amount to 7,443, the hired men to 31,053, and shipwrights and artificers under training, 303.

15. The entries of cadets into the Royal Naval College, Dartmouth, and by special entry examination are stated to have remained the same as the preceding year. The numbers are as follows:

- Cadets entering Dartmouth in 1939 - 131
- Executive special entry cadets - 100
- Engineer special entry cadets - 61
- Paymaster cadets - 40

In addition to these, the report states that a number of cadet were entered by nomination from the Dominions, the special examination for the mercantile marine training establishments, and promotion from artificer apprentices.
16. The statement of the First Lord gives the progress of work on new construction of the vessels of the 1936, 1937, and 1938 programs, times of launching, etc., which have been reported from time to time by this office.

17. The report also gives a statement as to the progress of work on large repairs.

18. An item of particular interest is noted in Vote 8 of the Navy Estimates, covering the preparation of merchant vessels for their rearmament during national emergency. In the previous year £60,000 was allocated to this purpose but in the present Estimates this figure has been increased by £250,000 to a total of £410,000. As previously reported, the items include magazines, paravane gear, and gun foundations.

19. Relative to work on shore establishments, the Admiralty statement carries information to the effect that at Portsmouth it is intended to commence work on the lengthening of No. 8 Dock which is urgently necessary to meet increased docking requirements. This provides for accommodation for dry docking destroyers up to 400 feet in length, thereby leaving the larger docks for cruisers. At Devonport, a new berth will be constructed for cruisers on the North Wall of No. 4 Basin. At Singapore, work is proceeding in the erection of accommodation for the crews of vessels refitting there.

20. The report concludes with miscellaneous comments in regard to the continuation of welding investigations, experiments to ascertain the best methods of coping with damage of various weapons on warships including submarines. Progress is also noted in the study of air flow around ships and their control positions. Other items mentioned are investigations concerning boilers, fuel, materials, internal combustion engines, etc.

21. Attention is particularly invited to the items under Vote 10, which give the items of work to be undertaken on buildings and works of shore stations at home and abroad. The amounts to be expended in the future give a fairly good idea of the state of progress of each item. Among the large items are a harbor defense works at Aden with a total estimated amount of £610,000; a new oil dock factory (location not given) to the amount of £1,192,760; and storage accommodation for oil fuel (location not given) to the amount of £1,088,000. The actual and estimated expenditures for Dockyard- and contract-built ships, and for those under large repairs, is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimated Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft and ordnance</td>
<td>£1,192,760</td>
</tr>
<tr>
<td>Dockyard- and contract-built</td>
<td>£610,000</td>
</tr>
<tr>
<td>Ships</td>
<td>£1,088,000</td>
</tr>
<tr>
<td>Total</td>
<td>£3,888,760</td>
</tr>
</tbody>
</table>

The actual and estimated expenditures are subject to future review.
1. "The Times", "Manchester Guardian" and "Telegraph" have recently carried the following information relative to the allocation of new naval construction to building yards.

2. The two battleships of the 1938 building program, LION and TEHAMAIRE, will be built at Vickers Armstronos on the Tyne and Cammel Laird at Birkenhead, respectively. The machinery, boilers, and auxiliary plant for the LION will be manufactured at the Vickers Armstronos Engine Works at Barrow-in-Furness. The machinery for the TEHAMAIRE will be constructed at Cammel Laird, Birkenhead.

3. The Admiralty has announced that subject to the settlement of details it has decided to entrust the construction of the following vessels to the firms shown:

   FIJI Class Cruisers, one each to the following -
   Vickers Armstronos, Barrow-in-Furness
   Vickers Armstronos, High Walker-on-Tyne, with machinery by the Parsons Marine Steam Turbine Company Ltd.
   Swan, Hunter and Wigham Richardson Ltd.,
   Walsend-on-Tyne
   Alexander Stephen and Sons, Ltd., Govan, Glasgow

4. A new depot ship for submarines is to be constructed by Harland and Wolff, Belfast.

5. According to the "Manchester Guardian" of 2 March, 1939, the Managing Director of Swan, Hunter and Wigham Richardson Ltd. (Mr. Charles Swan) states that these orders have come at a very welcome time and will make it unnecessary to lay off thousands of men who would otherwise have been paid off. They can be kept employed for 2 or 2½ years to complete these orders. Mr. Swan stated that the cruisers would be laid down very soon.

6. Tyneside now has about £50,000,000 of naval work in hand.
ATTACHÉ'S REPORT

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From: [Name] Date: 8 March, 1939  Serial No.: 221  File No.: [Number]


Subject: GREAT BRITAIN AVIATION  Estimates 1939

Reference:

Reference: (a) Air Estimates, 1939, and Accompanying Memorandum by the Secretary of State for Air

1. Six copies of the Air Estimates and accompanying Memorandum were forwarded to O. N. I. with the Publications Report of 3 March, 1939. As usual the Air Estimates contain a great amount of information on the extent of the plans for maintenance and expansion of the Air Force with regard to expense involved. No indication is given as to the number of planes contemplated for delivery or ordered during the year. The information is already as concise as can well be arranged, which makes it impossible of summary without missing many desirable points. A complete study of the Air Estimates is recommended for the purpose of obtaining a full understanding of the R. A. F. plans for the coming year.

2. A number of major points have, however, been noted and are listed below, -

(a) The authorized strength of the R. A. F. for 1939 is 118,000 as compared to 96,000 for 1938.

(b) The authorized strength of the R. A. F. Reserve and the R. A. F. Volunteer Reserve is 77,000 and of the Auxiliary Air Force/Reserve at 27,000, and the R. A. F.

(c) 1939 1938

Total Estimates ......... 205,951,000 ......... 125,621,000

Technical and War-like

Stores ......... 114,870,000 ......... 72,152,000

Works, Buildings

and Lands ......... 48,250,000 ......... 24,040,000

(d) First appropriations are made for 15 new Stations at home and 6 abroad.

(e) First appropriations are also made for 2 Maintenance Units, 1 Repair Depot, new Staff College at Andover, new Navigation School in Devon, new Central Flying School, a Flying Training School.

(f) Reimbursements for the Fleet Arm are noted to the extent of 28,198,000.
(g) The 1939 Appropriations for Works and Lands for Factories and Extensions to Contractors Works is £16,250,000 as compared with £5,250,000 for 1938. This should be taken as an excellent indication of the steps already taken by the Air Ministry to increase aircraft production by additions to existing plants and the building of new factories. I consider that these steps which have reached fruition during the past six months are by far the most important that the Air Ministry have taken during the period of expansion to provide necessary flying equipment.

(h) While this point is not of great moment as regards expansion of the E.A.F., it is nevertheless desired to note that the foreign allowance set aside for Air Attachés and Assistants is £25,000. This allowance is in addition to regular salary and allowances, and in some cases, including Washington, D.C., is as much as £7 per day.
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From: [Redacted]  
Date: 1st March, 1939  
Serial No.: 252  
File No.: [Redacted]


Subject: GREAT BRITAIN Navy Officer Procurement.

(Station title as per index sheet)

Reference:  

Note.—The reference number and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographies, personnel, or political incidents, and the gist of the report.

OFFICER PROCUREMENT: INCREASED NEEDS FOR ADDITIONAL EXECUTIVE BRANCH OFFICERS TO BE MET BY: (1) EMPLOYMENT OF RETIRED OFFICERS; (2) PROMOTION OF WARRANT OFFICERS; (3) TRANSFER OF R.N.R. OFFICERS; (4) ENTRANCE OF MERCHANT MARINE OFFICERS.

-1-

(c) N.A. London Report No. 195 of 21 February, 1938.  
(d) Admixture Fleet Orders 611, 612, 613, 616, of 9 March, 1939 (Forwarded with Publications Report).

Enclosure:  

(a) Selected Press Clippings.

1. Reference (a) reported the Admiralty offer of active employment on some service for retired officers. Enclosure report that "50 or more" such officers have returned to active service.  

2. References (b) and (c) gave the methods and figures on officer procurement as of the dates submitted. References (d) are the Admixture Fleet Orders putting into effect systems in addition to the employment of retired officers designed to provide the necessary commissioned executive personnel for "... the accelerated fleet expansion..."

3. Warrant officers are to be promoted to Lieutenant R.N. under the following conditions (A.F.O. 611):  

(a) Eligibility - Gunners, Gunners (2), Boatswains, Boatswains (2), Signal boatswains, and warrant telegraphists between the ages of 25 and 36. Applications are not required, but no officer will be selected without his own consent.

(b) Training - consists of special courses and watchkeeping instruction.

(c) Specialization will be permitted.

(d) Uniform allowance - £50.

4. Admixture Fleet Order 612 offers temporary employment in the Fleet for 3 years to:  

(a) Officers of the R.N.V.R. and "Gentlemen of the R.N.V.S.R." (Royal Naval Volunteer Supplementary Reserve) men.

(b) Training - Classes of 10 will have one month’s instruction ashore, then three months in a destroyer.

(c) Initial employment to be in destroyers or (possibly) cruisers.
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From: A Date: 14 March 1935 Serial No: 252

Source of Information: ADMIRALTY FLEET ORDERS AND FRAMEWORK.

Subject: BRITISH NAVY OFFICER PROFESSIONAL

Reference

Note—(The receipt, indexing, and distribution of reports by O. M. I. will be greatly expedited if a brief summary of the contents is entered in the space Mention leading geographical, personal, or political names, and the gist of the report.)

-2-

(d) Are limits 21 to 30; candidates about 24 years old are preferred.

(e) Pay will be the full pay and allowances of rank. For officers from the R.N.V.R. an outfitting allowance of £50 will be provided. All officers will receive a gratuity of £150 after three years satisfactory service.

5. R.N.R. Officers and Merchant Officers may transfer to the Royal Navy under the following conditions for regular employment (A.F.O. 613):

(a) Eligibility—R.N.R. officers of the active list of Lieutenant of below or Merchant Marine deck officers (not R.N.R.) with a Second rate or higher certificate. Age limits 21 to 30.

(b) Promotion to Lieutenant Commander R.N. after eight years from date of seniority as Lieutenant R.N. Promotion to higher ranks will be in accordance with King's regulations and Admiralty instructions (which at present written will give these officers the same opportunities for higher promotion as any other officer).

(c) Specialization will be permitted.

(d) Uniform Allowances:

R.N.R. Officers — £30
Merchant Officers — £50.

(e) Retirement at age 45 at normal rate of retired pay unless promoted to Commander.

(f) Pay is tabulated in Appendix I to A.F.O. 613.
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From: X  
Date: 15 March 1939  
Serial No.: 261  
File No.: (blank)

Source of information: Official.

Subject: GREAT BRITAIN  
Air Raid Precautions  
Estimated for year ending 31 Mar. 1940

Reference: (blank)

AID RAID PRECAUTIONS -  
ESTIMATES FOR THE YEAR ENDING 31 MARCH 1940

Reference: (a) "Civil Estimates for the year ending 31 March 1940 - Home Department (including Air Raid Precautionary Services), Law and Justice" - 24 Feb. 1939; p. 23 (Forwarded with current Publications Report).

1. Attention is invited to p. 23 of reference (a), which gives estimates of the amount for Air Raid Precautionary Services required in the year ending 31 March, 1940, amounting to a gross total of £42,205,907.
ATTACHÉ'S REPORT

From: 
Date: 16 Mar., 1939  
Serial No.: 264  
File No.

Subject: GREAT BRITAIN (EGYPT) NAVY Harbor changes, Alexandria

Reference: Blanks—(The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.)

HARBOR CHANGES IN ALEXANDRIA

Enclosure: (A) Clipping from "Daily Telegraph", 15 Mar. 1939.

1. The "Daily Telegraph"'s Cairo Correspondent indicates that a scheme has been prepared for improving the harbor at Alexandria at a cost of £3,000,000. This provides for deepening the channel, which is now of insufficient depth to permit the passage of the largest warship. Provision is to be made for a dry dock for the use of naval vessels, and for a petroleum basin for tankers. Oil tanks at present on the harbor side are to be removed to the south of the railway and linked up with the quay with a pipe line. The work is to be spread over four years, according to this article.
From: X Date: 20 March, 1939 Serial No. 281
File No. (Commencement new series January 1st) (Select proper number from M. I. Indexes)
Source of information: M. A. London Report
Subject: GREAT BRITAIN AVIATION Shadow Factory
(Nation reported on) (Index title as per index sheet) (Sub-file)
Reference:

1. A report on the Austin shadow factory, submitted by the Assistant Military Attaché for Air subsequent to a visit to that plant, is quoted in part for information.

"On Wednesday, February 22, 1939, the undersigned, accompanying Colonel Raymond E. Lee, this office, and Wing Commander Anderson, R.A.F., Air Ministry, visited the Government Aircraft Factory operated by the Austin Motor Co. Ltd. at Longbridge, Birmingham.

On our last visit, just a year ago, the factory was not completely tooled or jigged and no aircraft had been produced.

The factory is now in full operation, employing about 7,000 men, boys and women, and was filled to almost crowding with aircraft in various stages of construction. As far as possible tools are made for all parts. Tooling and jiggling of factory is very elaborate and costly. Only where it has been determined that tooling would be completely out of proportion to the job is the work done by hand.

It was stated that so far there had been 16,000 modifications in the "Battle" drawings. These changes were all ordered by either the Air Ministry or the Fairey Company. The Austin Company was not permitted to make modifications in design and suggested changes were not looked on with favor by the Fairey Company. All parts made by Austin must be interchangeable with all parts made by the Fairey Company. Large parts must be sufficiently accurate so that they can be put in place using a pin not over .002 undersize.

Almost the only skilled labor is in the sheet metal shop. All others, in general unskilled, have been trained to perform one or two special operations and to use certain tools, and, in many cases, appear to be without any idea as to precisely what they are doing or the material with which they are working.

It was stated that the labor was mostly recruited from the unemployed, from ex-clerks, squatters and clam diggers. Practically none had ever used tools or were familiar with machinery, nor had any been members of engineering unions. So that in addition to teaching them to do certain jobs it was necessary to teach them a certain amount of shop discipline.

<table>
<thead>
<tr>
<th>Director</th>
<th>A.B.C.D.E</th>
<th>F.G.H.I.J.K.L.M.N.</th>
<th>TECHNICAL</th>
<th>M.H.O.</th>
<th>TECHNICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.C.C.</td>
<td>C.C.</td>
<td>C.C.</td>
<td>U. S.</td>
<td>C.C.</td>
<td>C.C.</td>
</tr>
<tr>
<td>U. S.</td>
<td>M.H.O.</td>
<td>M.H.O.</td>
<td>B. C.</td>
<td>M.H.O.</td>
<td>M.H.O.</td>
</tr>
</tbody>
</table>

Use forms for all copies. The only forms as supplied by O. M. I. Make all sketches, etc., uniform in size with this form where practical. Submit extra copies of all sketches, marks of sketches, etc., where practicable. Submit sketches in suitable order for interpreting or photographer.
The directing staff were enthusiastic about the way the working force had taken hold of the work and rather intimated that their experience showed that it was more satisfactory to start a new factory with entirely new personnel than to build it on personnel trained in other industries and therefore deeply imbued with the trades union outlook.

A vertical jig referred to in the original report on this factory is still in use. It saves a certain amount of space and permits men to work without undue bending. However, the men do not care for it as they have to work on platforms and a misstep means a fall. It has not been considered worthwhile to increase the number of these jigs. Instead, horizontal jigs are being used and at present are set at varying heights from the floor to determine the most satisfactory working height.

The directing staff seemed to be progressive and very much on the job.

It was stated that the total order for Fairey "Battles" was 863 and that on 22 February, the day of our visit, the 100th aircraft had been completed and that the remainder of the order would be finished by the end of this year. It is understood that the production rate is now about 12 per week which means that it will have to be increased to over 20 per week to complete the contract on schedule. To produce the remaining 763 aircraft in the 44 weeks remaining in this year will require an average weekly production of 17-1/2 aircraft. According to these figures the production estimates in our Report No. 59830, Dec. 22, 1938, subject: Aircraft Production, should be changed to:

<table>
<thead>
<tr>
<th>July-Dec. 1938</th>
<th>Jan.-June 1939</th>
<th>July-Dec. 1939</th>
</tr>
</thead>
<tbody>
<tr>
<td>no change (40)</td>
<td>From 200 to 312</td>
<td>From 450 to 411</td>
</tr>
</tbody>
</table>

On completion of this order for "Battles" the factory, it was confidentially stated, will then produce the Short "Sterling", a new bomber which is very much on the secret list. This machine will be ready to fly in a few months. All that is known of it is that it is a four-engined land monoplane with a reputed range of 4,000 miles carrying over 10,000 lbs. of bombs. In order to have as short a period of transition as possible, a 250 ft. extension will be built to the factory so that the special tooling and jiggering for the new machine will be finished and components made while the last of the "Battles" are being completed, with the result that "Sterlings" will closely follow the "Battles" on the production line.
1. A report on the Rootes shadow factory, submitted by the Assistant Military Attaché for Air subsequent to a visit to that plant, is quoted in part for information.


This is one of the two original aircraft shadow factories which, after considerable delay in selection of site, was started in February 1937. The factory is thoroughly modern with flow along the longer axis. The factory, 1400 ft. by 400 ft. with two wings, one 200 x 400 ft. and one 200 x 200 ft., has a total floor space, exclusive of offices, or 690,000 sq. ft.

The building has three different roof levels, 20 ft. for machine shop, 30 ft. for component assembly, and 40 ft. for final assembly section. Cranes are provided to pick up a complete fuselage with engines and wing stubs so that in event of delay on one machine far down production line those in the rear can be carried over to a more forward position.

In addition, there is a flight shed about 100 x 125 ft., and there is also a very modern office building which houses the administrative staff, engineers, accountants etc.

As with the Austin factory, this plant is especially well equipped with tools, jigs and machine tools, of which about 25% are American. There were a greater number of mechanically operated and hydraulic presses noted than is usual in British factories.

There are 5300 employees of whom a great many have been skilled in heavier industry, especially shipbuilding. They have had to have considerable training to accomplish a transition to the lighter aircraft construction, the rivetting of aircraft parts being considerably different than rivetting heavy ship plate. Workers, having been members of engineering unions, are more highly organized than those at the Austin plant, and are said to respond less enthusiastically to the requirements of faster work in the emergency. There is very little hand work done and only where it is considered less expensive than tooling. The amount of handwork is to be reduced on the next type aircraft to be produced which is understood to be the very secret Short "Sterling." A large staff of draughtsmen were already busy on drawings for the tooling of this machine.
ATTACHÉ'S REPORT

From: X
Date: 20 March, 1939
Serial No. 282

Source of information

Subject: GREAT BRITAIN
(Nation reported on)

Reference

This factory is producing the Bristol "Blenheim". They are still turning out the short version but are preparing to start, shortly, on production of the later long nosed version. (M.A. Report No. 39725, Nov. 3, 1938, subject: Bristol "Blenheim" Aeronplane Co. Ltd.)

It was stated that the first "Blenheim" was produced in August 1938 and that production was only a few machines per month until this month when it is understood 12 will be completed. Production rate next month should be doubled and increased monthly until June when it was stated the production rate would be between 20 and 30 per week, and that the whole contract will be completed by the end of next December. This, however, is believed to be slightly exaggerated.

The number on order was stated to be just under 1000. Assuming that the order is for 845 machines, that leaves 800 to be delivered in the next 44 weeks, or an average of about 18 per week. At the rate at the moment is but 3 per week and will probably be 6 per week in March, possibly 12 in April and, steadily increasing thereafter, the following figures may be assumed, which will change those in our Report No. 39833, Dec. 22, 1938.

To Dec. 31, 1938  Jan. to June 1939  July to Dec. 1939
Change to 20  From 100 to 230  From 300 to 595

There are now two 8-hour shifts, overlapping, with a little overtime where needed to prevent bottle necks. At the moment the factory is not working anywhere near up to capacity, it being stated that work was held up due to shortage of duralumin, about which something would have to be done by the Government to insure continuous and ample supply of this and other needed materials.

As already stated the factory is excellently and sufficiently tooled and jigged for quantity production but to produce aircraft at the rate necessary to complete deliveries by December it will be necessary to increase the number of employees and put considerable more drive into the work."
ATTACHE'S REPORT

From X Date 23 March 1939 Serial No. 304

Source of information Press

Subject GREAT BRITAIN

(Nation reported on)

Naval escort vessels - orders placed for ten.

(Indicate title as per index sheet)

Reference


NAVAL ESCORT VESSELS - ORDERS PLACED FOR TEN

1. It was announced by the Admiralty on 22 March 1939 that ten of the twenty escort vessels or small destroyers which figure in the British Naval Building Program for 1939 are to be built in the following places:-

2 Escort vessels each:-

Cammell, Laird & Co. Ltd., Birkenhead.


Swan, Hunter & Wigham Richardson Ltd., Wallsend-on-Tyne (machinery by the Wallsend Slipway & Engineering Co. Ltd., Wallsend-on-Tyne).

Yarrow & Co. Ltd., Scotstoun, Glasgow.

John Brown & Co. Ltd., Clydebank.

1 Minelayer -

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From: X Date: 11 April, 1939 Serial No.: 345 File No.: (Confidential new series from January 1939) (Subject report from O. N. I. Index)

Source of Information: Parliamentary Debates - COMMONS

Subject: GREAT BRITAIN DEFENSE, EXPANSION OF IN H.M. DOMINIONS

(Nation reported on)

(HomePage as per index sheet)

Reference:

Reference: (a) Parliamentary Debates - COMMONS - Vol. 345, No. 74 (Columns 1898-1899) - Tuesday, 28 March, 1939; forward with previous Publications Report.

1. The Secretary of State for Dominion Affairs (Sir Thomas Inskip), in answer to questions on the subject, gave the following information in the House of Commons on 28 March, 1939:

"His Majesty's Government in Canada have provided in their Estimates for 1939-40 for an expenditure on national defence of $65,447,000, an increase of $37,480,000 on the estimated expenditure for 1938-39.

"His Majesty's Government in the Commonwealth of Australia in April, 1938, decided upon a defence programme involving a total expenditure on defence of $44,000,000 in the three financial years 1938-39 to 1940-41, and in December last decided further to expand the programme to a total expenditure for the three years of $65,000,000. The present provision for the financial year 1938-39 is £18,100,000 as compared with £11,500,000 in 1937-38. The Prime Minister of the Commonwealth is reported recently to have announced that the three years' programme will be further expanded, and that Australia is now engaged on a defence programme costing £25,000,000 per annum.

"Details of the estimated expenditure on defence by His Majesty's Government in the Union of South Africa for the forthcoming year are not yet available, but considerable expenditure for the purpose of armaments was foreseen by the Union Minister of Finance in his Budget statement on 15th March, while the Union Minister of Defence is reported to have made a public statement on the expansion of the Union Defence Forces in the Union House of Assembly on 23rd March.

"I understand that the New Zealand Budget for 1939-40 will not be introduced for some months, but recent statements by New Zealand Ministers have foreseen increases in defence expenditure. The total estimated expenditure of His Majesty's Government in New Zealand in connection with defence for 1939-40 will not be introduced for some months, but recent statements by New Zealand Ministers have foreseen increases in defence expenditure. The total estimated expenditure of His Majesty's Government in New Zealand in connection with defence for 1939-40 will not be introduced for some months, but recent statements by New Zealand Ministers have foreseen increases in defence expenditure. The total estimated expenditure of His Majesty's Government in New Zealand in connection with defence for 1939-40 will not be introduced for some months, but recent statements by New Zealand Ministers have foreseen increases in defence expenditure. 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From X Date 11 APRIL 1939 Serial No. 345 File No. (Complete new series each January) (Index number from O. N. I. Index)

Source of information

Subject GREAT BRITAIN DEFENSE, Expansion of H.M. Domin’s

(Nation reported on)

(Title as per index sheet)

Reference

Note: The review, indexing, and distribution of reports by O. N. I. will be greatly expedited if a brief summary of the contents is entered in this space. Mention leading geographical, personal, or political names, and the gist of the report.

--2--

with defense for 1938-39 is about £2,900,000, as compared with £1,900,000 for 1937-38.
ATTACHÉ'S REPORT

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From X Date 13 Mar, 1939 Serial No. 352 File No.

Source of information Foreign Office.

Subject GREAT BRITAIN Partic. of British Navy Vessels: NAVY 18 Light Surface, of 1939 Prog. (Station reported on) (Dates title as per index sheet) (Footnotes)

Reference

CONFIDENTIAL

PARTICULARS OF BRITISH NAVAL VESSELS - EIGHTEEN LIGHT SURFACE VESSELS OF THE 1939 ANNUAL PROGRAM


1. The following information was recently received from the Foreign Office; giving details of 18 light surface vessels of the 1939 Program, viz:-

10 Vessels of following characteristics: - (Names not allocated)

<table>
<thead>
<tr>
<th>Category and sub-category</th>
<th>Light surface vessels (c).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard displacement</td>
<td>272 ft.</td>
</tr>
<tr>
<td>Length at waterline at standard displacement</td>
<td>272 ft.</td>
</tr>
<tr>
<td>Extreme beam at or below water-</td>
<td>28 ft. 11 in.</td>
</tr>
<tr>
<td>line at stand. displ.</td>
<td></td>
</tr>
<tr>
<td>Mean draught at stand. displ.</td>
<td>8 ft.</td>
</tr>
<tr>
<td>Designed horse-power</td>
<td>19,000</td>
</tr>
<tr>
<td>Designed speed in knots</td>
<td>32</td>
</tr>
<tr>
<td>Type of machinery</td>
<td>Geared turbines.</td>
</tr>
<tr>
<td>Type of fuel</td>
<td>Oil.</td>
</tr>
<tr>
<td>No. of all guns of 3&quot;</td>
<td>6 of 4 in.</td>
</tr>
<tr>
<td>Approx. No. of guns of less than 3&quot; (76 mm.)</td>
<td>6</td>
</tr>
<tr>
<td>Number of torpedo tubes</td>
<td>6</td>
</tr>
<tr>
<td>Whether designed to lay mines</td>
<td>No.</td>
</tr>
<tr>
<td>Approx. no. of aircraft for which prov. is to be made</td>
<td></td>
</tr>
<tr>
<td>Date of completion</td>
<td></td>
</tr>
</tbody>
</table>

8 Vessels of following characteristics: (Names not allocated)

<table>
<thead>
<tr>
<th>Category and sub-category</th>
<th>Light surface vessels (c).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard displacement</td>
<td>348 ft.</td>
</tr>
<tr>
<td>Length at waterline at standard displacement</td>
<td>348 ft.</td>
</tr>
<tr>
<td>Extreme beam at or below water-</td>
<td>35 ft. 8 in.</td>
</tr>
<tr>
<td>line at stand. displ.</td>
<td></td>
</tr>
<tr>
<td>Mean draught at stand. displ.</td>
<td>9 ft. 5 in.</td>
</tr>
<tr>
<td>Designed horse-power</td>
<td>40,000</td>
</tr>
<tr>
<td>Designed speed in knots</td>
<td>36</td>
</tr>
<tr>
<td>Type of machinery</td>
<td>Geared turbines.</td>
</tr>
<tr>
<td>Type of fuel</td>
<td>Oil</td>
</tr>
</tbody>
</table>
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From __ Date W April, 19__ Serial No. 352 File No. __

Source of information:

Subject: GREAT BRITAIN PARTICULARS OF HR, Navy vessels — MILL Light surface

Particulars reported on:

Reference:

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CONFIDENTIAL

(silhouette)

(8 vessels — cont'd)

<table>
<thead>
<tr>
<th>No. &amp; cal. of all guns of 3 in.</th>
<th>6 of 4.7 in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(76 mm.)</td>
<td>(76 mm.)</td>
</tr>
</tbody>
</table>

Approx. no. of guns of less than 3 in. (76 mm.) caliber.

Number of torpedo tubes.

Whether designed to lay mines.

Approx. no. of aircraft for which provision is to be made.

Date of completion.

FILE 1873

DECLASSIFIED

E. O. 11652, Sec. 3(B) and 8(D) or (E)

OSD letter, May 4, 1973

By: G R

Date: May 4, 1973
ATTACHE'S REPORT

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From X
Date 14 April 1939 Serial No. 361
File No.

Source of information
Air Ministry Publication.

Subject
GREAT BRITAIN AVIATION

AVIATION monthly - Curtailment of

(Air Ministry reports on

(Indicate title or per index sheet information, if any)

Reference

Bureau—(This report, indexing, and distribution of reports by O.N.I. will be greatly expedited if a brief summary of the contents is entered on this space. Mention leading geographical, personal, or political names, and the gist of the report.)

AIR FORCE LIST - CURTAILMENT OF INFORMATION THEREIN

1. In accordance with plans previously reported, the Air Ministry have now reduced their monthly Air Force List in size and in the extent of information published therein. The object of this reduction, of course, is to divulge as little information as practicable with regard to the organization of the Commands, Groups, Squadrons, and Stations.

2. The new list continues to show the complete organization of the Air Ministry and the directing personnel assigned thereto.

3. It lists the several Commands, as follows:

Home -
Fighter Command. Balloon Command.
Coastal Command. Reserve Command.
Training Command.

Overseas -
Royal Air Force, Middle East.
British Forces in Palestine and TransJordan.
British Forces in Iraq.
Royal Air Force, India.
Royal Air Force, Mediterranean.
British Forces in Aden.
Royal Air Force, Far East.

The composition of the Commands is not shown. Instead, there are given only the addresses of the Commands, and a few of the principal officers in each.

4. Similarly, Groups are listed by numbers, with postal addresses, and two or three of the principal officers.

5. Squadrons are listed by numbers only under the two headings of Home and Overseas. No indication is given of the location of each Squadron nor of the type of planes with which equipped. According to the latest information available to this office, however, the present assignment of the 151 Squadrons shown in the March 1939 Air Force List is as follows:

Bomber Squadrons, ................. 55
Fighter Squadrons, .................. 59
Gen. Reconnaissance (incl. Flying Boats) ... 16
Torpedo Bombers, .................. 2
Army Cooperation, ................ 9
6. There is no listing of the various Royal Air Force Stations.

7. It will be noted that the postal address for all units assigned to Aircraft Carriers is given as G.P.O., London.

8. No listings are made of the Royal Air Force Training Establishments, Schools, or Armament Training Schools.

9. Further curtailments which are of comparatively minor importance may be noted by comparison with the previous issue of the Air Force List, March 1939.
ATTACHE'S REPORT

From: X
Date: 19. April 1959
Serial No: 373
File No: 0-0-0/4815-5

Source of information: From.

Subject: GREAT BRITAIN
Naval Department

DESTROYERS AND FLEET AIR ARM

CONTRACTS PLACED BY ADMIRALTIES FOR
DESTROYERS AND FLEET AIR ARM SUPPLY SHIP
IN 1938 ESTIMATES
AND 1939 ESTIMATES, RESPECTIVELY

Reference: (a) The Times, 17 April 1959.
(b) Sunday Observer, 16 April 1959.

1. The Times of 17 April states that the Admiralty has decided to place the contracts for two destroyers of the 1959 Program to each of the following firms:

- John Brown & Co. Ltd., Clydebank;
- Wm. Denny & Bros. Ltd., Dumbarton;
- Fairfield Shipbuilding and Engineering Co. Ltd., Govan;

2. With the eight vessels now ordered there are 4 Flotillas of 32 vessels under construction, to be increased to 5 Flotillas of 40 vessels when the second group of the 1939 Program is ordered.

3. The orders for the vessels of the 1939 Program have been placed very soon after the authorizations.

4. Announcement was made by the Admiralty on 16 April 1939 that the contract for H.M.S. UNICORN, the Fleet Air Arm Supply and Repair ship of the 1938 Program, would be placed with Messrs. Harland & Wolff Ltd., Belfast.

5. The UNICORN is a new type of ship and her tonnage and design are being kept secret. In the same yard, the press states, it is understood that the new submarine depot ship ADAMANT, of about 10,000 tons, is to be laid down.
ATTACHÉ'S REPORT

1044100

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From X Date 27 April, 1939 Serial No. 411 (to be dated and marked "Handwritten" first column) Fie No. 4(1) (1) (index)

Source of information Personal Observation

Subject GREAT BRITAIN AVIATION VISIT TO BLACKBURN AIRCRAFT, LTD., BROUGHT

(Host name reported on)

Reference

(To be filled in by O. N. I.)

CONFIDENTIAL

REPORT ON VISIT TO BLACKBURN AIRCRAFT LIMITED, BROUGHT.

1. A visit was made by the Naval Attaché for Air to the Brough plant of the Blackburn Aircraft, Ltd., Brough, Yorks., on Thursday, 20 April.

2. The Blackburn Aircraft, Ltd., now operates three plants. The original plant at Brough occupies over 500,000 square feet of floor space and employs about 5,500 men in addition to the drafting and direction staff. The Brough plant is at present occupied mainly with the construction of "Skua". They are also commencing construction of the Blackburn "Beaufort" and building some jigs for this machine. The plant at Dunbarton on the Clyde, is beginning construction of "Beaufort" and also at this plant is the retractable pontoon flying boat. The plant, which is a new one, also covers about 600,000 square feet of floor space and employs 4,500 men. The plant at Leeds has about 300,000 square feet of floor space and employs 1,500 men. The main activity at Leeds is the manufacture of components to feed both the Brough and the Dunbarton plants. All of these factories are on a two 8-hour shift basis without overtime. In some cases three shifts are resorted to catch up in places where delays have occurred.

3. In reference (a) a considerable amount of information was reported as regards the "Skua". Some additional "Skua" data was obtained on the visit to Blackburn's plant. The most interesting point is with regard to the diving flaps on the "Skua". These are single flaps on the under side of each wing inboard of the ailerons but forward of the trailing edge by the width of the aileron - about 18 inches. They are box-shaped, being about 3-inches thick at the forward edge and about 2-inches at the after edge, approximately 7 feet long and an average of 18-inches wide. They are hydraulically operated and span to 80 degrees. In the open position they are reported not to affect the trim of the plane - the reason for their location in fact is to accomplish this result. They are reported to reduce the terminal velocity from 460 m.p.h. to 220 m.p.h. and in doing so to represent a retarding force of 1,500 horse-power. Bombing results, attributed largely to the effectiveness of these flaps, are reported to be phenomenally good.

4. The bomb was originally housed in the fuselage by means of two flap doors. These doors bulged somewhat from the form which the fuselage would have been given without the necessity of enveloping the bomb. The bomb deflector gear was also originally housed but the example of this housing observed was not a masterpiece of streamlining. Subsequent tests have shown...
that there is very little additional drag when the bomb is only partly housed in the fuselage and the deflector is completely exposed. The flap doors and the deflector housing have therefore been omitted on production planes.

5. The all-up-weight, i.e., fully loaded, was spoken of as 7,000 pounds, which the Admiralty considers excessive, but the Blackburn Company point out that the requirements for this plane are so demanding that weight is unavoidable. As previously reported, Admiralty requirements, which this plane meets, are that the plane be stressed for dive-bombing, catapulling, arrested landing, both retractable wheel landing gear and also flotation landing gear; to have built-in flotation in fuselage and wings, 4 wing guns with the same amount of ammunition carried by the eight-gunned "Hurricane" and "Spitfire"; to carry a 500-pound bomb, a general-purpose radio set, a telephone set - TR-9, and homing loop.

6. Wings fold by hand alongside the fuselage, being hinged at two points on an angle 45 degrees to the chord. When extended they are secured by 4 pins, the upper two of which extend through the top wing surface to indicate when wings are fully extended. A wing can be folded or extended in 30 seconds by two men in a 20 mile wind. My informant did not know the manpower required for operation in stronger winds.

7. The nose bumpers on the pentcoets being manufactured for the "Smax" appear to be superior to types which have previously been noted in America by me. They were quite similar in shape and application to the American type. They were, however, made of rubber, the inner part being of a porous material and the outer part of solid, the solid rubber being about 3/8" thick. This method of manufacture permits an exact continuation of the lines of the float. Together with the smoother surface of the rubber, should involve somewhat less drag; also the rubber buffer would appear to be a more effective bumper and in addition is somewhat better in appearance.

8. The top speed has been variously reported as 235-240 m.p.h.

9. The engine is equipped with a cartridge starter.

10. In extensive landing tests aboard the COURAGEOUS it is reported that all landings were made on the first wire, a performance which is not expected of previous types of planes. It was stated that when catapulted fully loaded at 56 knots the "Smax" continued her flight without dropping. There appears to be some
ATTACHÉ'S REPORT

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From Date 27 April, 1942
Serial No. 411
File No. \[---\]
Source of information PERSONAL OBSERVATION

Subject GREAT BRITAIN AVIATION AIRCRAFT, ZEP., BRITISH

Reference

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Report.—The review, indexing, and distribution of reports by O.N.I. will be greatly expedited if a brief summary of the contents is inserted in the space. Mention leading paragraphs, personnel or political names, and the like.

8

CONFIDENT

By S.L.R. Date MAY 2, 1973

11. The fighter version of this plane, known as the "Roc", was seen. As reported, this is equipped with a 4-gun, power-operated turret. The turret looks quite large for the plane but it was stated that there was not much reduction in speed in the 2-seat fighter version.

12. The rate of production at present being realized at Blackburn's was not ascertained. It was intimated, however, that Blackburn has an order for 200 "Skua" and 200 "Roc".

13. The following general information on the "Botha" and the retractable float flying boat was given me, not with reluctance, but with a bit of trepidation. It is repeatedly obvious that all persons having any knowledge of confidential information of this and similar nature take very seriously the Official Secrets Act. They usually make a special point of asking that the confidential nature of the information be fully guarded, but more often the information is just not given. The "Botha" is to be a twin-engined, high wing monoplane for general reconnaissance. The engines are to be the "Hercules", but the plane is to be stressed to take the "Parnia" engines should higher powers be decided on later. With the "Hercules" the plane will have a top speed of about 295 m.p.h. and a cruising radius of 3,000 miles. Substantial bomb load can be carried in place of some of the gasoline capacity. It was gathered that provision was made to accommodate a maximum load of bombs with a range of 1,500 miles.

14. Two "Bothas" have been completed. About 8 more were noted in the jigs in various stages of completion. It was stated that the number on order were sufficient to keep both the Pumbaron and the Brough plants busy into the autumn of 1940 at the rate of 7 planes per week. This does not permit of accurate estimate as the time required to work up to a production of 7 planes per week is not known, but this should represent a total number of planes in the neighborhood of 1,000.

15. The retractable float flying boat is to be a twin-engined job with a loaded weight of 31,000 pounds. The pontoon hull has an extension motion of 8' 9". Wing-tip floats fold outward to form the wing tips with bottom surface flush and the upper surface projecting above the other portion of the wing. The maximum speed of this boat is mentioned to be in the neighborhood of 300 m.p.h.
Progress on its development was reported to be satisfactory and prospects pleasing. Operations were to be made during the present week to test the main float extending and retracting gear. This is hydraulic and reported to involve an addition of only 700 pounds weight. The prototype is scheduled to be flying during the summer.

16. It is requested that this information be considered as entirely confidential.
ATTACHÉ'S REPORT 21457-A (B-6-1)

From: X
Date: 10 May 1959
Serial No. 475
File No.

Source of information: House of Commons Debates

Subject: GREAT BRITAIN MERCANTILE MARINE - WAR SERVICES LIST - MERCHANT MARINE TRAINING COURSES

Reference:

MERCANTILE MARINE - WAR SERVICES LIST - TRAINING COURSES


1. In answer to a question relative to arrangements made for men on the Mercantile Marine War Services List who are temporarily serving in H.M. Dockyards to attend courses for merchant seamen gunners, the Parliamentary Secretary stated that it had been decided to extend the category of services for which leave with pay is granted to such employees. This leave with pay is to be granted under similar conditions to those for employees attending Territorial Army training classes.

2. Only regular employees are eligible for paid leave and it has not been applied to purely casual employees.

3. This is in further reference to the steps being taken to facilitate training of merchant marine officers, as reported in reference (b).
ISSUED BY THE INTELLIGENCE DIVISION, OFFICE OF CHIEF OF NAVAL OPERATIONS, NAVY DEPARTMENT

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From: X Date: 19 MAY 1939 Serial No.: 478 File No.: 478

Source of Information: Official Publication

Subject: GREAT BRITAIN NAVY PERSONNEL

ACTIVE DUTY FOR RESERVES

Reference: Section titled as per index sheet

Reference:

(a) Parliamentary Debates, Commons, for 16 May, 1939 column 1204, forwarded with Publications Report.

1. In a written answer in the House of Commons (Reference (a)) the following announcement was made:

"The Admiralty propose to call up into service, to increase the preparedness of the Fleet, the following reservists as from 15th June:

"(i) Half the Royal Fleet Reserve, Class D (immediate class) for a period of three months from 15th June, and the second half of this class of the Reserve similarly in the middle of September for a like period;

"(ii) About 750 pensioners for three months from 15th June, followed by a similar number for the three months from the middle of September. Pensioners who have most recently completed their time will be called up for this service;

"(iii) About 50 wireless and signal ratings of the Royal Naval Volunteer Reserve and the Royal Naval Volunteer (Wireless) Reserve, for three months from 15th June, and a similar number for the subsequent three months;

"(iv) About 300 men of the Royal Naval Reserve Patrol Service for three months from 15th June, and a like number for the subsequent three months.

"(v) The necessary number of retired and reserve officers will be called up for a period of six months from 15th June."

2. The Admiralty Fleet Orders putting the above measures into effect and comment on them by British naval officers will be forwarded as soon as practicable.
ATTACHE'S REPORT

Reference number [original and its number]: this number is necessary because of the limited personnel in O.M.I. and because of the urgency for quickly disseminating information from Attaches. These copies will be distributed by O.M.I. to such individuals or organizations, according to subject matter.

From: [Redacted]  
Date: 24 May 1939  
Serial No.: 481  
File No.:  

Source of information: Conversation - Reliable

Subject: GREAT BRITAIN  
Navy  

GnRILikon 80 mm

Reference:

Confidential

BRITISH NAVY REPORTED AS PLACING ORDERS FOR 500 GERILikon 80 mm  
ANTI-AIRCRAFT CANNON AND ADEQUATE AMMUNITION WITH A CONTEMPLATED  
TOTAL PROGRAM OF 1,000 UNITS.

References:
(a) M.A. London Report 69 of 1 Feb., 1937, = 14/2/37.  
(b) D.N.I. letter Op-16-B 12 A3-5/69/GAZDA, Antoine of  
26 Sept., 1936.

Enclosures:
(A) Military Attaché London Report No. 3848 of 30  
December, 1938.  
(B) Military Attaché London Report No. 40142 of  
22 May, 1939.

1. Attention is invited to Enclosures, kindly furnished  
by Military Attaché, London. The illustrations on pages 2-4 of  
Enclosure (A) are on the original report in the files of the War  
Department.

2. The concluding paragraph of Enclosure (B) is of particular  
interest and is quoted for convenience:

"It is understood that it is proposed to equip  
British merchant vessels as well as various types of  
naval vessels with one or more of the Gerlikon units."

The number of guns envisaged in the total project - 12,000 - certainly  
indicates that installation of them aboard British merchant vessels  
is contemplated.

3. Enclosures are forwarded in advance of confirmation and  
and comment by Admiralty officers because it is understood that Mr.  
Antoine Gazda (reference (b)), Gerlikon representative, plans on  
visiting the United States in the near future and calling at the  
Navy Department. The Naval Attaché furnished him with letters of  
introduction to Commanders W. S. Popson and L.C. Stevens. The sources  
of the information reported in Enclosures are such that any inquiries  
made of Mr. Gazda in this connection should be extremely discreet.
ATTACHÉ'S REPORT

From: X  Date: 19 June, 1939  Serial No. 559  File No.

Source of information: PRO.

Subject: GREAT BRITAIN --- M.A.Y --- PACIFIC

Reference: (Note reported on) (Index title as per index sheet) (Footnote)


1. The Naval Chronicle of the Hampshire Telegraph & Post of 16 June 1939, carries an article by Raymond V.B. Blackman which states that, although the names of the vessels have not been disclosed, it is apparently the policy of the Government, in accordance with the pledge recently given by Britain to Australia and New Zealand, to provide an adequate battle fleet in the Far East should an emergency arise.

2. The article gives the relative strength of the navies concerned and lists as the probable vessels to be sent to the Far East the five old but reconstructed QUEEN ELIZABETHS.
ATTACHE'S REPORT

From: [Name]
Date: 26 June, 1959
Serial No: 573
File No: [File Number]

Source of information: Parliamentary Debates - COMMONS

Subject: GREAT BRITAIN

TRениNG YOUNG FISHERMEN FOR NAVAL RESERVE

Reference: (a) Parliamentary Debates - HOUSE OF COMMONS,

1. The debates in the House of Commons of 21 June 1939 brought forth the following information on the above subject.

2. Young fishermen between the ages of 20 and 21 who have registered in accordance with the Military Training Act and expressed preference for Naval training are being enrolled in the Royal Naval Special Reserve, and arrangements have been made for their training in that Reserve. The Admiralty hopes that all young fishermen will take advantage of this opportunity of fitting themselves for the service in which, owing to their peace-time avocation, they can be of most use to their country in an emergency.

3. The fishermen will be taken to camps and then to Port Edgar and the Government will pay their fares. These men will serve in the Naval Reserve for four years, with six months continuous training.
BRITISH FLOATING DRY DOCK TOWED TO ALEXANDRIA.

(b) H.A.L. Report No. 601, 30 June 1939.

1. In connection with references, the press, under date of 20 July 1939, states that the large Naval floating dry dock which left Portsmouth on 24 June in tow by three Dutch tugs arrived at Alexandria the morning of July 20th, and is being moored to a specially prepared berth.

2. The seven-weeks voyage from England was entirely without incident. On the voyage to Alexandria a crew of 70 dockyard men and men employed by the towing company was aboard.
FLEET AIR ARM TREESLED

Enclosure: (a) Clipping from "London Times" of 23 July, 1939.

1. The enclosed article by Lieut-Commander Kenneth Edwards, R.N., Naval Correspondent of the London Times, describes the expansion of the Fleet Air Arm incident to the construction of new Carriers and it states that the number of planes operated by the Admiralty is approaching seven hundred (700). The SKUA dive-bomber is described as the latest service plane and it is understood that it is employed as an all-purpose Carrier Aircraft. The new aircraft are in the design and experimental stage and will be employed as two-seater fighters. They are to be equipped with power operated gun turrets in addition to the usual fixed-guns.

2. A discussion of the probable use of Carriers by the Royal Navy indicates that the air force is not to be used as a striking force but rather for reconnaissance, spotting and search. Such a policy has been indicated in conversations with officers of the Admiralty.
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From X Date 3 August, 1939 Serial No. 714 File No. (Commander new series and number) (Redact proper number from O. N. I. index)

Source of information Press

Subject GREAT BRITAIN NAVY ANTI-SUBMARINE WORK

(Nation reported on)

Reference (Index title as per index sheet)

14TH 14 1939

NAVAL INTELLIGENCE

TRAILERS FOR THE ROYAL NAVY

ANTI-SUBMARINE WORK

1. The press announced under date of 31 July, 1939, that the Admiralty, at a cost of £2,000,000, have taken over fifty-four (54) trawlers from Hull and thirty-four (34) from Grimsby. It is stated that these trawlers will be utilized for anti-submarine activities of the Royal Navy.

2. A conference was held by the Transport and General Workers' Union (which includes fishermen), which passed a resolution instructing its officials to make immediate representation to the Hull Fishing Vessels Owners' Association to increase crews of the trawlers to relieve the unemployment which might arise from the Admiralty's purchase and to agree to a system of registration for trawlers' crews worked in cooperation with the unions concerned.

3. The announcement in the House of Commons was made that the particular trawlers in question were not for minesweeping but for anti-submarine work. The Admiralty further announced in Commons that it would try, in so far as possible, to continue men at present serving in the trawlers in them when they were taken over by the Admiralty.