5 Identification of merchant ships and raiders

5.1 To appreciate that there was the possibility of raiders being present was one thing. To safely identify any particular vessel as a friendly vessel or a disguised raider was quite another. As the Naval Commander-in-Chief, East Indies Station, wrote to the Admiralty on 15 July 1941, following the sinking of Raider 33 by HMS CORNWALL on 8 May 1941:

Definite identification of a suspicious ship without risk to one’s own ship must always be a very difficult matter especially with an enemy so well versed in the art of deceit as the Germans.¹

Recognition tools

5.2 By early 1941 there were three tools available to an Australian warship to assist in the recognition of a raider without boarding the vessel:

- a secret signal exchange system
- a list of vessels expected in an area—called a VAI
- visual recognition.

These three tools were not alternatives; rather, they were cumulative aspects of the process of recognition.

The secret signal exchange system

5.3 On 5 July 1912 most nation states agreed on the final protocol of the International Radiotelegraph Convention and the Detailed Service Regulations. The protocol was signed for Australia on that date. The Instrument of Ratification for the British Empire, including Australia, was deposited on 2 June 1913. Article 13 of the convention provided:

The International Bureau of Telegraph Union shall be entrusted with the duty of collecting, co-ordinating and publishing information of every kind relating to radiotelegraphy, of investigating requests for modification of the Convention and of the Regulations, of publishing the changes adopted and, in general, of proceeding to any

¹ UKAA.006.0085 at 0089
administrative work which it may be called upon to undertake in the interests of international radiotelegraphy.2

Under the convention, each ship that could send and receive radio transmissions was treated as an individual radio station, as were land stations, and each radio station had its individual call signal.3 Each country was allocated a block of wireless call signs, the initial letter or letters indicating the country of origin of the wireless station. In this way ships from the Dutch East Indies all had the initial two letters ‘PK’. The remaining signal letters were allocated to a particular wireless station or ship with a transmission capability; the call sign for the wireless station for STRAAT MALAKKA was thus PKQI.4

The convention was administered by the Bureau of the International Telecommunication Union in Berne, Switzerland, and the alphabetical list of signal letters, which was published annually, became known as the ‘Berne List’. Part C of the list, headed ‘Particulars of ship stations’, listed the call sign of every ship, that being the four signal letters of the ship.5 So, for example, when a ship was challenged to identify herself and responded PKQI, the challenger could consult the alphabetical list and assume, at least initially, that the ship was the STRAAT MALAKKA.6

The International Code of Signals

5.4 Codes of signals for the use of mariners have been published since 1817. After CAPT Marryat’s first code publication in that year, a series of codes were published, culminating in the maritime powers agreeing to an international code of signals in 1897. World War 1 revealed difficulties with the code, however, and changes were made by international agreement between 1927 and 1930, resulting in the 1931 International Code of Signals.7

5.5 The International Code of Signals covered agreed alphabetical and numerical flags, methods of signalling (flashing, sound signalling and Morse) and the allocation of initial letters of signal letters, call signs and aircraft markings.8 For example, Great Britain was allocated ‘G’, Germany was allocated ‘D’, and the Dutch East Indies ‘PK’ to ‘PO’. Article 41 of the code provided, ‘The signal letters for ships are the same as their radio call signs and consist of four letters. The first letter

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2 COI.009.0211 at 0215
3 COI.009.0211 at 0212
4 EML.001.0237 at 0247; EML.001.0226 at 0233
5 EML.001.0237 at 0240
6 See, for example, HMS KANIMBLA’s use of the Berne List (AWM.001.0060).
7 UKAA.004.0001 at 0002 to 0003
8 International Code of Signals 1931 (UKAA.004.0001 at 0001 to 0008).
or the first two letters indicate the nationality of the ship’. This is why the signal letters for STRAAT MALAKKA became PKQI.

5.6 The International Code also had a series of agreed letters to signify particular phrases. For example:

- ‘NNJ’ meant ‘You should make your signal letters’ and was the signal used to challenge a ship to identify herself.

- ‘IK’ meant ‘You should prepare for a cyclone, hurricane, typhoon’.

5.7 Warships carried on board a copy of the Berne List.

Use of signal letters and secret call signs

5.8 The problem of identifying friendly ships and, by deduction, German raiders disguised as friendly ships was dealt with in an Admiralty general message dated 25 December 1940:

In order that the identity of H.M. Ships and British merchant vessels may be more readily established the one to other, N.C.S. officers are instructed to explain to masters the following system of challenge and reply which is to be brought into force forthwith. (ii) Warship identifying merchant vessels. Warship challenges – what are your signal letters. Merchant vessel turns away increases to full speed and makes her signal letters. Warship signals centre two letters of (?), merchant vessel secret call sign. Merchant vessel replies with first and last letters of her secret call sign.

This is Part 1 of My 2009 Part 2 Follows (1932/25).

My 2009 Part 2 And Final. (iii) Merchant vessel identifying warship that has not repetition not challenged. Merchant vessel turns away, increases to full speed and challenges by making her signal letters. Warship replies with centre two letters of merchant vessel’s (?), call sign. Merchant vessel replies with first and(?), last letters of her secret call sign. (iv) The above procedure is to be explained verbally repetition(?), verbally to masters of all British merchant vessels. (v) Some time must necessarily(?), elapse before all British merchant vessels have been instructed in above procedure. While owing to possibility of compromise this system cannot repetition not be considered to guarantee absolutely the identity of merchant ships indemnification should eliminate doubt in great majority of cases.

(vi) A M S I 11 is cancelled.
The new instructions were conveyed to both Naval and merchant ships.\footnote{See, for example, NAA.010.0104; NAA.010.0103; NAA.010.0094.}

The envisaged procedure gave both warships and friendly merchant vessels a means of identifying each other. It did not direct the means by which the communication between the warship and the merchant vessel was to be made—that is, by wireless transmission, by light or by flag.

5.9 This system of identification required that:

- each friendly merchant ship have both signal letters and a secret call sign
- each warship be able to determine the merchant ship’s supposed identity on receipt of her signal letters
- each warship know the supposed ship’s secret call sign, so that she could signal to the merchant ship the two central letters of the secret call sign.

The signal interchange system therefore involved both the warship and the merchant vessel knowing the secret call sign of the merchant vessel. As long as the knowledge of the secret call sign remained out of enemy hands, the system provided a high degree of integrity for identification of a friendly merchant vessel. Failure to comply correctly with the secret signal exchange procedure also meant, by elimination, a high degree of probability, if not certainty, that a vessel was not the ship she purported to be and was probably an enemy vessel.

5.10 The integrity of the identification system also depended on both the warship and the merchant vessel properly complying with the recognition procedure. Warship crews were trained to comply with the procedure, but there were many instances of merchant ship crews not properly complying.\footnote{AWM.001.0227; NAA.010.0035; NAA.010.0060; NAA.010.0118}

5.11 The Admiralty’s instruction of 25 December 1940 did not offer guidance about the practical methods of implementing the identification system. Since it was directed at the more ready establishment of ‘the identity of HM Ships and British merchant vessels’, it was not directed at identification of armed enemy raiders—other than by exclusion.\footnote{NAA.011.0351} Practical implementation of the identification system entailed no risk to the warship if the vessel identified was in fact friendly. If, however, the
vessel was an enemy vessel, use of the identification system—which could involve the warship approaching to within the range of armaments carried by the disguised enemy vessel—did entail risk.

CMDR E Dechaineux RAN, who investigated the loss of SYDNEY, certainly appreciated the problem of having to approach to within gunnery range to pass and read signals. On 21 December 1941 he wrote that one of the ‘broad lessons learnt’ from the loss of SYDNEY was:

2. The fundamental importance of good challenge and reply procedure by merchant ships. Desirable to make it compulsory for independently routed merchant ships to carry daylight lamp range 10 miles. Some merchant ships of allied nations do not carry secret call signs. All ships trading in allied interests should possess these.\(^1\)

He further noted, ‘3. The necessity of Commanding Officers to regard all ships as suspicious’.\(^1\) This comment implies that CMDR Dechaineux felt SYDNEY had not always treated KORMORAN as suspicious.

5.12 Although the system of warship–merchant vessel identification promulgated by the Admiralty message of 25 December 1940 did not change throughout 1941, various changes were made during that year to the secret call sign of merchant vessels. A merchant ship’s public signal letters did not change, but its secret call sign—known as ‘Merchant Ships war W/T call sign’—did. Initial war call signs were contained in Signal Publication (SP) 02182.

On 30 January 1941 Confidential Admiralty Fleet Order 235, entitled ‘S.P. 02182(2)–Merchant ships war W/T call signs no.2’, provided:

... 2. On receipt of the book, Naval Officers-in-Charge and N.C.S.O.s are to issue each Master of a British merchant ship with an envelope, to be known as “Admiralty Envelope W”, inside which will be the ship’s new War W/T Call Sign, as obtained from S.P. 02182(2). The instructions inside the envelope are to be in the form:-

“When this envelope is ordered to be opened, the Mercantile Secret Call Sign of ‘S.S.’—(name of ship concerned)—is to be changed forthwith to:-

……………………..

And this will be known as her War W/T Call Sign.”

The outside of the envelope, which is to be sealed, is to be marked:-

“Admiralty Envelope W”

“Not to be opened until ordered by the Admiralty.”

\(^1\) NAA.010.0267
\(^1\) NAA.010.0267
3. Commanders-in-Chief are to report to the Admiralty by signal as soon as the Naval distribution of S.P. 02182(2) is complete on their stations.

4. When the World Wide Naval distribution is complete, instructions will be given for all merchant ships to open “Admiralty Envelope W,” if held on board.

5. Since every merchant ship may not have received “Admiralty Envelope W” by the time Naval distribution is reported complete, Naval Officers-in-Charge and N.C.S.O.s are to ensure that all ships leaving their ports after this date are in possession of their new War W/T Call Signs.

6. In the interim before the whole Merchant Service receives the new Call sign, there will be two types in use:-

   (i) The four-letter Call Sign from S.P. 02182, and

   (ii) The two-letter/figure 2/ two-letter Call Sign from S.P. 02182(2).

7. When it is certain that all merchant ships have been given their new Call Signs, orders will be given for S.P. 02182 to be destroyed, and for the figure 2 to be omitted from the new Call Signs, which will thus become four-letter Call Signs.18

No doubt this amended set of call signs was introduced because of a fear, or knowledge, that the first set had been compromised.

5.13 The Admiralty also issued Naval Control Service Instructions, which were kept in ‘C.B. [Confidential Book] 3050’. In February 1941 NCSI 181, entitled ‘Method of Establishing Identity of Warships and Merchant Ships’, was issued. It read as follows:

1. A Challenge and Reply procedure has been brought into force to enable certain of H.M. Ships and certain Merchant Ships to mutually establish their identities at sea in areas where enemy surface raiders are likely to be encountered.

2. The procedure depends upon an exchange of signals taken from Merchant Ships’ War W/T Call Signs (S.P.02182(2)). This publication contains secret call signs corresponding to the International Signal Letters allotted to British ships so that any merchant ship having British signal letters can be given a secret call sign.

3. S.P.02182(2) is at present held by all major war vessels (except submarines) and by trawlers engaged in ocean escort duties.

4. Every British merchant ship of over 500 tons, and fitted with W/T, is supplied only with her own Secret War W/T Call Sign.

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18 UKAA.009.0062_CAF0235/41
5. Certain Allied and Neutral merchant ships trading in British interests will also be given International Signal Letters of the British series and a corresponding Secret War W/T Call Sign. Particulars of these ships will be promulgated by the Admiralty from time to time.

6. The procedure is, therefore, confined to ships described in paragraphs 3, 4 and 5.

7. The procedure will be carried out in *International Code* as follows:-

**Warship identifying merchant ship:-**

(a) Warship challenges *by day* with group NNJ by flags or flashing.

Warship challenges *by night* by flashing group NNJ several times without previous call, or by making in plain language, “You should make your signal letters.”

Merchant ship **turns away, increases to full speed** and replies by making her International Signal Letters either by flags or flashing.

Warship makes centre two letters of Merchant Ship’s War W/T Call Sign.

Merchant ship replies with first and last letters of her War W/T Call Sign.

**Merchant ship identifying Warship that has not challenged:-**

(b) Merchant ship **turns away, increases to full speed** and challenges by making her International Signal Letters either by flags or flashing.

Warship replies with centre two letters of Merchant Ship’s War W/T Call Sign.

Merchant ship replies with first and last letters of her War W/T Call Sign.

8. Naval Control Service Officers are to ensure that the above procedure is explained to the Masters of those merchant ships which have been given Secret War W/T Call Signs and that particulars *in writing* are included in their orders.

(T.D.541/40.- C.A.F.O. P.336/41.)

9. The procedure is intended principally for merchant ships after they have passed out of patrolled areas. Merchant ships will continue to use the procedure from *Key Memorandum No.6* (S.P.02296) while passing through patrolled areas.

10. Some time must necessarily elapse before all merchant ships concerned have been instructed in the above procedure. Owing to the
possibility of compromise, the system cannot be considered to guarantee absolutely the identity of the ship challenged, but it should eliminate doubt in the great majority of cases.

(A.M.S.I. 271.)

At some stage paragraphs 3 and 8 were amended, although in a manner that is not relevant here.

5.14 Implementing Confidential Admiralty Fleet Order 235 was CAFO 1074, dated 29 May 1941, replicating an Admiralty message promulgated during May 1941, which read:

3. British submarines operating in the Atlantic may use this recognition procedure and the new War W/T Call Sign is liable to be used by Dutch warships at any time after 0001 G.M.T. on 1st June, 1941.

5.15 Signal Publication 02182 was dealt with by CAFO 1075, also dated 29 May 1941, which provided:

70A S.P. 02182. Spare group 177, delete “Empire Book” and substitute “Empire Brook” BCKF.

Spare group 186, delete “Empire Brook” BCKK

Following spare groups allocated:

186. “Bucegi” ... ZNAO

187. “Indochinos” ... BFVY

Signal letters MNPP allocated to “Empire Dolphin.”

71A Cases have occurred in which H.M. ships have carried out incorrect recognition procedure resulting in the merchant ship sending unnecessary distress message, and in another case in loss of life due to abandoning ship.

2. The importance of carrying out the procedure correctly has been stressed to masters of merchant ships. It is even more important that H.M. ships should not fail on this point.

...

106A At 0001 G.M.T., 1st June, bring into force S.P. 02182(2).

2. British merchant ships have been instructed to open envelope “W” (S.24/41 refers) at that time, and when

19 UKAA.007.0092
20 UKAA.009.0195_CAFO1074/41
using recognition procedure to add figure 2 after signal letters if new war W/T call sign from S.P. 02182 (2) is to be used. If figure 2 is omitted this will indicate that secret call sign from 02182 is to be used.

3. S.P. 02182 is to be retained for the present in case any merchant ship is still using old secret call sign.

4. Commanders-in-Chief should inform all Dutch major war vessels under their commands that S.P. 02182(2) comes into force at time stated above. Admiralty General Message 791A refers.\(^{21}\)

5.16 CAFO 1074 and CAFO 1075 were replicated by Confidential Admiralty Merchant Shipping Instruction (CAMSI) 443, which read:

1. Masters are to open envelope “W” at 0001 G.M.T. on the 1st June, 1941, after which time, when using the recognition procedure with warships, the figure “2” is to be added after the ship’s signal letters so as to indicate that the new War W/T Call Sign has been received and will be used.

2. If envelope “W” is not on board, the figure “2” is to be omitted, thus indicating that the old Secret Call Sign will be used.

3. British submarines operating in the Atlantic may use this recognition procedure and the new War W/T Call Sign is liable to be used by Dutch warships at any time after 0001 G.M.T. on the 1st June, 1941.\(^{22}\)

5.17 In June 1941 NCSI 371 was issued. It was not materially different from NCSI 181, except that it implemented CAFO 1075 by requiring a merchant vessel, when giving her war W/T call sign, to indicate whether she was using series 1 or 2 of SP 02182. Paragraph 8 read:

**Warship Identifying Merchant Ship**

*(a)* Warship challenges *by day* with group NNJ by flags or flashing.

Warship challenges *by night* by flashing group NNJ several times without previous call, or by making in plain language, “You should make your signal letters.”

Merchant ship *turns away, increases to full speed* and replies by making her International Signal Letters either by flags or flashing, followed by a figure indicating the series of S.P.02182 from which her call sign is taken.

\(^{21}\) UKAA.009.0195_CAF01075/41 at 0196_CAF01075/41 to 0198_CAF01075/41

\(^{22}\) UKAA.011.0199_CAMSI443
Warship makes centre two letters of Merchant Ship’s War W/T Call Sign.

Merchant ship replies with first and last letters of her War W/T Call Sign.23

5.18 These CAFOs, SPs, NSCIs and CAMSIs were still operative in November 1941, thus prescribing the manner in which a warship was to challenge and identify, at least in the first instance, a merchant vessel.

5.19 The war W/T call sign for STRAAT MALAKKA was IIKP.24 Accordingly, when SYDNEY encountered KORMORAN, if there was to be compliance with the various Admiralty instructions the W/T identification process required the following four steps:

Step 1—SYDNEY to flash NNJ (‘You should make your signal letters’)

Step 2—KORMORAN, disguised as STRAAT MALAKKA, to have turned away, increased speed and flashed or signalled by flag PKQI

Step 3—SYDNEY to have flashed IK

Step 4—KORMORAN, had she been STRAAT MALAKKA (or had the secret call sign for STRAAT MALAKKA), to have responded IP.

5.20 According to the account of the German survivors, the signals in steps 1, 2 and 3 were sent. Step 4 did not occur because KORMORAN either did not understand step 3 or, if she did, did not have the war W/T call sign to enable her to reply with the correct signal, IP.

The list of vessels expected in an area

5.21 The second tool available to warships was the list of ‘vessels in area indicated’, or VAI. There was within Navy Office a section known as the Mercantile Movements Section, and one of its prime functions was to produce the VAI. In 1941 the officer responsible for the MMS’s operations was LCDR BA Graham RANVR Rtd. In a submission to the Parliamentary Inquiry25 he described the section’s role:

The role of MMS was to provide full merchant ship information to all divisions of the RAN and later allied navies, which had the need to know, together with British and allied naval vessels within the Australia station. This included a twice daily broadcast, in cipher, of course, to white ensign naval vessels within the Australia station and

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23 UKAA.007.0098 at 0102
24 NAA.010.0263; NAA.010.0294 at 0295
25 PINQ.SUBS.015.0107 at 0108: Submissions 162 and 162A
by pick up from nearby adjacent stations, which indicated, via a grid system, the position of every merchant ship at sea within the Australia station.

... 

In addition, MMS promulgated to white ensign vessels operating within the station, through non-w/t channels, descriptions of every merchant ship known to them, which was likely to pass through the Australia station. This largely was a physical description including - when built, tonnage, type of ship - passenger, tanker, cargo, (3 island or other type), number of funnels and position, number of masts, number of samson posts with their positions, type of stem, type of stern, any other unusual features and painted colours as last known. In addition actual photos or these ships were distributed as they were obtained. This was by necessity a slower process. All this information was on file at MMS with immediate availability 24 hours a day. It must be emphasised that no naval vessels or troop ships ever appeared on MMS plots, MMS was purely mercantile. Admission to MMS was guarded and only authorised personnel were permitted entry.26

...

To supply this information, detailed plots were kept of the entire station and upgraded on a continuous basis from signals received of departures, sightings, and arrivals from reporting officers at every port, and coastal signal stations within the area. To do this, MMS operated in 3 watches over 24 hours. At the same time a detailed plot of those ships heading for and leaving this station was kept. This was constantly updated by reports of departures for this station or ships passing through, quoting date and time of departure, speed of advance, route and ETA. These were originated by Naval Control Service Officers (NCSO’s) at all British ports and by reporting officers in non-British countries. At that time the United States was a neutral country.27

5.22 LCDR Graham’s evidence accords with an 11 September 1939 confidential memorandum from the Secretary, Department of the Navy, to all district Naval officers:

NAVAL CONTROL SERVICE - MERCANTILE MOVEMENTS SECTION.

In order that reporting authorities may be aware of the purpose for which the information transmitted to Navy Office regarding the movements of merchant shipping is required, I am directed by the Naval Board to append, for your information, a brief description of the work carried out by the Mercantile Movements Section.
DIRECTION. The work of Mercantile Movements Section is directed by the Naval Control Service Officer attached to Naval Staff.

OBJECTS. (1) To provide Area Combined Operations Room and Central War Room with complete and accurate information as to movements of Merchant Shipping on the Australia Station with a view to the protection of that shipping by Naval and Air Forces.

(2) To obtain and record the movements of all merchant shipping on and approaching the Australia Station. Under war conditions no authorities report the movements of shipping other than those appointed by Admiralty and Naval Board. It will be seen therefore that Mercantile Movements Section is the only central source from which such information can be disseminated.

ORGANISATION. Plotting. Immediately reports are received the positions of ships reported are plotted. A series of plots indicating positions of ships at sea at a given time are prepared. Signals are transmitted to H.M.A. Ships and to Air Stations at stated times indicating those positions. Thus at present, signals are sent daily at 0500, 1000, 1400 and 2200 giving positions at 0700, 1200, 1600 and 0001 respectively.

Descriptions of ships observed by aircraft on reconnaissance duties are reported to Area Combined Operations Room and by reference to the merchant ship plots the identification of an enemy disguised raider can be established by a process of elimination. It will be seen that the success of this method of identification depends on the accuracy and completeness of the merchant ship plots. It is equally clear that those factors are dependent on:-

(a) The immediate reporting of all movements as they occur.

(b) The inclusion in such reports of all available information as set out in C.B. 3000A(38), para. 103.

Card Index. A card index system is maintained on which are recorded complete details of the voyages of all ships on the Station and from which other information such as recognition particulars, speeds, tonnage, etc., may be readily obtained.

Information to N.C.S. Staffs. Details of all arrivals and departures of merchant ships on the Australia Station are passed daily to N.C.S. Officers at the various centres so that, inter alia, they may be able to inform Owners and Agents of the arrivals and departures of their ships. N.C.S. Officers should as soon as possible communicate with Shipping Companies and Agents in their respective centres and arrange to provide on application the information referred to. The arrangement should be reciprocal so that the N.C.S. Officers may obtain from the Shipping Companies such information regarding the overseas movements of their ships as may come to them direct from
time to time. Such information should immediately be passed on to
Navy Office by NAVYSHIP message.\(^{28}\)

The memorandum made it clear: ‘by reference to the merchant ship plots
the identification of an enemy disguised raider can be established by a process
of elimination’ [emphasis added].

5.23 CAPT Burnett was very familiar with the operations of the MMS and
the production of the VAI. While posted to Navy Office as Deputy
Chief of Naval Staff from October 1939 to May 1941, he frequently
visited the premises where the VAI was created. LCDR BA Graham
stated:

As is well known, Captain Burnett was DCNS before taking command
of “Sydney” and during his term at Navy Office he became a frequent
visitor, usually on a Sunday morning. Because of these visits, I was
always present, and I grew to know him well. Captain Burnett was
keenly interested to know exactly how we obtained the information
we had, how it was processed and its accuracy, and this he tested on
several occasions by very searching questioning. If he was told a ship
was plotted to arrive at a certain port or place, whether it be hours
days or even weeks ahead, he would enquire at a later time, how
accurate was the information we gave him. I believed him to be a
vastly capable officer who very clearly accepted and stored the
information we supplied. He once remarked that I should be very
proud of the section we had created, because he believed it was second
to none. In respect to Captain Burnett, I would say that he knew more
about MMS than any other senior officer. During our conversations, he
asked how satisfied we were that shipping from the north, including
the Netherlands East Indies and countries to the north were fully
reported to us. In response I had to say that this area was not wholly
satisfactory, as some ships did arrive unannounced, but they were few,
mostly from Japan and I suggested perhaps 2-3% or less could be
regarded as the norm. He of course understood why we had this
weakness and later, after Pearl Harbour, this weakness disappeared.\(^{29}\)

This accords with the recollection of Lady White, who, as Ms Elsbeth
Mackenzie, was on the staff of the MMS in 1940 to 1941.\(^{30}\)

5.24 The object and accuracy of the VAI were referred to in a minute dated
9 December 1939 in the following terms:

1. V.A.I. N.C.S.O. mentions the inaccuracy of position promulgated in
the V.A.I. signals. Firstly, V.A.I. signals were never meant for the
information of N.C.S. and are purely signals for the information of

\(^{28}\) NAA.073.0257
\(^{29}\) PINQ.SUBS.015.0107 at 0108
\(^{30}\) WIT.020.0001
D.N.O’s, C.C.S. and H.M.A. Ships giving the disposition of merchant ships on the Australia Station in certain specified areas.

... We have also definitely proved that our average error in plotting, taken over a considerable period, is about 26 miles and our average error in arrival times is approx. 2 hours 30 minutes.31

5.25 Warships at sea maintained what was known as ‘the plot’. On it was a continuously updated marking of the warship’s position and the position, if known, of all other ships in the area. As CDRE AN Dollard DSC RAN Rtd said, ‘the plot would contain a picture of the surface scene’.32 That information was obtained from the VAI, using its twice-daily update. The use made of the plot was described to the Inquiry by CDRE DHD Smyth AO RAN Rtd, who during 1941 had been a midshipman on HMAS AUSTRALIA and, among other things, had the task of helping to maintain the plot.33 When a ship was sighted the bridge communicated with those maintaining the plot, which was kept adjacent to the chart room, to obtain details of merchant ships expected in the area.34 Once the bridge had ascertained the ship’s name through the use of signals, the name was provided by voice-pipe to those maintaining the plot, who then consulted the VAI (to determine if the vessel was expected in the area) and merchant ship recognition books such as Talbot-Booth (Merchant Ships and later What Ship is That?) or ACB 0206 (Particulars of Merchant Ships for Recognition Purposes).35 Those maintaining the plot then informed the bridge of the distinguishing features of the ship, as taken from the reference books. Among the features were size, stem, stern, superstructure, masts, samson posts, and colourings. Those on the bridge could then confirm or otherwise that the vessel whose name had been obtained both was expected to be in the area and fitted the description given in the reference books.

5.26 The evidence before the Inquiry demonstrated that Australian warships used the VAI as a recognition tool in the manner described. The evidence also suggested that the VAI was an accurate tool and was relied on by warships. The following evidence illustrates this:

- CMDR Martin, Commanding Officer of HMAS MORESBY, reported sighting on 21 January 1941 a ‘strange vessel’ that ‘... had not been shown in the V.A.I.’36
• In his report concerning the identification of SS MALAITA on 5 February 1941, CAPT Showers, Commanding Officer of HMAS ADELAIDE, noted that the VAI indicated that MALAITA was the nearest known ship. He suggested a change in the manner of a ship’s course was advised by VAI to improve accuracy.\(^{37}\) RADM JG Crace RN advised the Naval Board on 7 April 1941 that ‘…now shipping intelligence messages are sent in cypher an improvement would result in the course of a ship being indicated more accurately …’\(^{38}\)

• CAPT HML Waller RAN, Commanding Officer of HMAS PERTH, reported that on 3 December 1941, when performing escort duties off the eastern Australian coast, he sighted a ship ‘… which did not quite agree with my plot’. The ship was stopped by signal and a full procedure for ‘“raider at a distance” so to speak’ was carried out.\(^{39}\)

### Was a ship on SYDNEY’s plot?

5.27 Two questions arise. First, was STRAAT MALAKKA on the VAI and thus on SYDNEY’s plot on 19 November 1941? Second, was there any other ship expected to be in the position where KORMORAN was encountered? This second question is of crucial importance because if, on sighting the ship, CAPT Burnett consulted his plot and was told a ship was expected to be in the area, he might have been justified in assuming the ship was friendly and thus justified in closing on her as he did.

5.28 I am satisfied that STRAAT MALAKKA did not appear on the VAI in November 1941 and thus was not on SYDNEY’s plot.

First, as a matter of logic it could not have appeared because the VAI recorded only vessels that were expected to be in the area of the Australia Station, and STRAAT MALAKKA was not so expected. In fact, it is known that on 19 November 1941 STRAAT MALAKKA departed Beira on the African coast.\(^{40}\) There could thus have been no report of her expected presence on the Australia Station.

Second, the MMS kept a ship’s index card on which was recorded the information maintained on the plots kept in Melbourne and from which the VAI information was compiled and transmitted to warships. The card for STRAAT MALAKKA records details of the vessel’s description,

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\(^{37}\) NAA.010.0092

\(^{38}\) NAA.010.0083

\(^{39}\) AWM.001.0128 at 0129

\(^{40}\) SPC.002.0171
size, type, tonnage, stem, stern, and voyages, including the source of information for the noted voyages (see Figure 5.1).

Figure 5.1  The Mercantile Movements Section’s index card for STRAAT MALAKKA

STRAAT MALAKKA did not appear in ACB 0206, *Particulars of Merchant Ships for Recognition Purposes*, for the year 1940. It did appear in ACB 0216 for the year 1942, being added in February of that year. This is consistent with the opening of an index card in 1942 for the vessel and thereafter recording its known movements. There is no other card for STRAAT MALAKKA in the MMS records. It is thus clear that STRAAT MALAKKA was not on the VAI in November 1941.

Third, there is the recollection of Lady White. Before making a supplementary submission to the Parliamentary Inquiry in June 1998, LCDR Graham had contacted Lady White, who, as noted, was on the

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41 SPC.014.0207
42 SPC.012.0449 at 0459
43 *Particulars of Merchant Ships for Recognition Purposes* was issued in November 1940 as ACB 0206, superseding the previous edition, ACB 0203 (see SPC.012.0449). The document was re-issued in February 1942 as ACB 0216, superseding ACB 0206 (see SPC.012.0004).
44 SPC.012.0014 at 0352
45 MSC.027.0219
46 PINQ.SUBS.015.0131
staff of the MMS in 1941. She was on duty when, after the loss of SYDNEY, inquiries were being made about the names of merchant vessels in the area where the loss was thought to have occurred. LCDR Graham told the Parliamentary Inquiry:

She [Lady White] has stated that she has a very strong recollection that the only merchant ship on the plots in the general area was the Dutch merchant ship “Japara” en-route from the Dutch East Indies to Australia. From memory, she believes the vessel was north of Carnarvon Area.

He continued:

Assuming her recollection is correct, and I have no reason to doubt it, “Sydney” would have known “Straat Malaka” was not at sea anywhere in the general area off the West Coast, North of Fremantle, and any vessel claiming to be her would have been regarded with suspicion.47

Lady White confirmed her recollection in evidence before this Inquiry.48

Fourth, the Chief of Naval Staff informed the Advisory War Council on 18 March 1942 that ‘The raider had given a wrong name and was not on the daily list’.49

5.29 The Inquiry established that Lady White’s recollection was incorrect.

In 1941 there were two vessels named JAPARA. One was 9,300 tons and one 3,300 tons, both registered in Batavia. By reference to the card system the MMS kept and used in preparing the VAI, the 9,300-ton ship—built in 1938, Dutch owned and with characteristics not dissimilar to those of KORMORAN—was not off the Western Australian coast in November 1941. She departed Singapore on 15 September and, via various ports, arrived in Makassar on 23 October. She then steamed to Thursday Island, arriving on 28 October and departing on 29 October for Los Angeles, where, it seems, she arrived on 21 November.50 The smaller JAPARA departed Makassar on 16 November for Thursday Island, where she arrived at 2035 on 22 November 1941.51

5.30 Because STRAAT MALAKKA was not on the VAI in November 1941, it follows that, if the plot was consulted after she had signalled her

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47 PINQ.SUBS.015.0131 at 0132
48 TRAN.016.0001_R at 0048_R to 0049_R
49 NAA.022.0306 at 0309
50 UKAA.015.0237 at 0247. See also MSC.015.0174.
51 MSC.015.0176
identity as STRAAT MALAKKA, CAPT Burnett must have known that ship was not expected to be in the area.

It is evident that if the identified vessel was not on the plot or in the VAI, thus indicating she was not expected in the area, she should have been treated as suspicious until the purported identity was confirmed. As will emerge, however, KORMORAN did not signal PKQI (STRAAT MALAKKA) until the two vessels were close to each other.

5.31 Establishing whether there was any ship at all on SYDNEY’s plot in the position where KORMORAN was encountered was more difficult. SYDNEY’s plot went down with the ship and so had to be re-created. This was done in two ways.

The Inquiry obtained what is believed to be the complete set of cards used by the Mercantile Movements Section; the cards are now held by the Sea Power Centre. There are 8,742 cards, one for each ship. These were examined in order to eliminate those ships not off the Western Australian coast. Of those remaining, calculations were made estimating the course and speed of the vessels from their known departure ports to their destinations, as shown on the cards. This resulted in the position, at 1700H on 19 November 1941, of the 15 ships that were off the Western Australian coast being determined. Those positions were plotted. The plot showed that the closest ship to the engagement site was the tug UCO, more than 100 nautical miles distant. The next closest vessel was BRAMORA, estimated at 427 nautical miles from the engagement site.

(The Inquiry had the work it had done internally checked by officers at the Navigation Faculty at HMAS WATSON. These officers confirmed the substance of the Inquiry’s work but qualified the distances. Appendix J sets out the brief they provided.52)

If that re-creation of the plot was correct, SYDNEY would not have been expecting to see a ship when KORMORAN was encountered.

5.32 As a second step, the Inquiry further searched Australian National Archives records and located the actual signals sent to all warships in the Australia Station twice daily to convey information from the Mercantile Movements Section. Warships used those signals, which were encoded, to update their plots. The Inquiry found a document in the archives that described how the coding operated, thus enabling the documents to be decoded.

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52 RAN 002 0142
The Australia Station is divided into six areas, known as A to F. The signals sent twice daily were divided into Parts I and II. Part I dealt with areas A, B and C of the Australia Station; Part II dealt with areas D, E and F (see Figure 5.2).

Areas D and E covered the Western Australian coast. Thus, only Part II of the signals was decoded. The manner in which the signals were decoded was as follows:

13. From this signal it can be decoded in the following manner
a. The first three sets of two digits (13, 14 and 20) represent the number of merchant vessels in regions D, E and F. If there were no warships in a section then the number would be a zero.

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53 NAA 110.0411 at 0419
b. Next the signal is divided into groups of three by three digit groups. In the example above the first three sets are 310, 411 and 206. Breaking these down into their four elements we can decode the signal to read:-

i. First two numbers – 31 – represent the latitude (in whole degrees) 31° South

ii. The next two numbers – 04 – represent the longitude (in whole degrees), decode to 104°E. If the longitude is greater than 100° then the 1 is dropped, and for example if the longitude is 96°E it would be represented as 96.

iii. The next group of four numbers – 1120 – indicates the vessel track number. This number was used to identify the merchant vessel. In this example 1120 represents ASTORIA. This number would normally be found in the reference publication for merchant ship plot numbers, A.C.B. 214. The Commission had a copy of the 1942-3 edition of A.C.B. 214, but this publication was unable to be utilised as the plot numbers were changed, reissued, or updated routinely with a rewrite occurring annually, with one towards the end of 1941, as indicated in signals dated 30 Oct 41. One key discovery made was that the merchant plot numbers were also recorded on the top of the Merchant Shipping Cards. Once this was found a comprehensive list of vessels was able to be compiled.

iv. The final number in the set – 6 – represents the direction of transit of the vessel. The table below represents each number and its direction allocation:

<table>
<thead>
<tr>
<th>Number</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Due but not yet arrived at position</td>
</tr>
<tr>
<td>1</td>
<td>000° - 045°</td>
</tr>
<tr>
<td>2</td>
<td>045° - 090°</td>
</tr>
<tr>
<td>3</td>
<td>090° - 135°</td>
</tr>
<tr>
<td>4</td>
<td>135° - 180°</td>
</tr>
<tr>
<td>5</td>
<td>180° - 225°</td>
</tr>
<tr>
<td>6</td>
<td>225° - 270°</td>
</tr>
<tr>
<td>7</td>
<td>270° - 315°</td>
</tr>
<tr>
<td>8</td>
<td>315° – 360°</td>
</tr>
<tr>
<td>9</td>
<td>Course unknown</td>
</tr>
</tbody>
</table>

v. In summary, the group 310 411 206 indicated that the merchant ship ASTORIA was in position 31 South 104 East on a course of 225° - 270°

c. Once a vessel has been decoded its movements and path were cross checked against its Merchant Card and the Ports Movements signal sent by the Naval Boards daily, and daily signals from the Naval Board detailing specific vessels routes and travel details …

d. This exercise was conducted for the SIMs focusing on the period 18 November 1941 to 19 November 1941 for regions “D” and “E” …
Figure 5.3 shows the three-page SIM signal sent to warships, including SYDNEY, at 0621H on 19 November 1941.

The resultant plot shows vessels’ location in areas D and E on 19 November 1941 (see Figure 5.4). The plot was expanded to show the expected movements of those vessels over two days, being 1600H 18 November to 0400H 20 November 1941.

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Figure 5.3 Three-page SIM signal sent to warships, including SYDNEY, at 0621H on 19 November 1941\(^{54}\)

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\(^{54}\) NAA 110 0411 at 0445 to 0447

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Figure 5.3  Three-page SIM signal sent to warships, including SYDNEY, at 0621H on 19 November 1941 (cont’d)
Figure 5.3  Three-page SIM signal sent to warships, including SYDNEY, at 0621H on 19 November 1941 (cont’d)
Figure 5.4  Plot showing vessels’ SIM plot location in areas D and E of the Australia Station from 18 to 20 November 1941\textsuperscript{55}

\textsuperscript{55} RAN 002 0172
The analysis and plotting were done by the RAN Navigation Faculty, HMAS WATSON. Its conclusion was as follows:

Summary

17. HMAS WATSON Navigation Faculty has assisted the HMAS SYDNEY (II) Commission of Inquiry to recreate a plot of predicted Merchant Vessels off the Western Australian Coast for the period of 18-19 November 1941. This plot was created using the official Naval Board signals drafted by Naval Control of Shipping, who were responsible for the routing of shipping during the war. With these signals a chart showing the position and direction of travel for Merchant ships of interest was created for the period of 18-19 November 1941 from the four signals sent during this period. It would have been a chart similar to this that Commands would have referenced when attempting to determine the identity of an unknown contact that they approached. From the information presented to the Navigation Faculty by the Commission and the charts created from the SIM signals found for the period it can be reasonably assumed that HMAS SYDNEY (II) was not expecting a merchant ship in the position when she came across the HSK KORMORAN. The closest vessels on the plot would have been BRAMORA (approx 240nm to the north from the battle position) and Tug UCO (approx 110nm to the south west from the battle position).

5.33 I agree with that conclusion. It follows that, if CAPT Burnett had consulted SYDNEY’s plot, as undoubtedly he would have on sighting KORMORAN, he would have been aware that no ship was expected in the area. That ought to have made him suspicious: friendly merchant ships were expected to be shown on the plot.

5.34 The VAI thus had three useful aspects for a warship:

- First, if a merchant vessel was sighted but the plot maintained on the basis of the VAI indicated that no vessels were expected in the area, suspicions would be aroused.

- Second, if a ship was expected in an area, early examination of books of reference might have enabled a warship to determine if the vessel sighted had the characteristics of the expected ship, once those characteristics could be visually determined. If she did not, suspicion would be aroused.

- Third, if a ship was expected in an area, once the signalling exchange had revealed the identity of the sighted vessel, the warship could consult the VAI to confirm that the vessel was in fact the one expected. If she was not, suspicion would be aroused.

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56 RAN 002.0142 at 0150
57 The only possibility of SYDNEY expecting to see a ship in the area where KORMORAN was sighted is if her navigator assessed that either LARGS BAY or BRAMORA was about two days ahead of her plot position at 0400H on 19 November 1941.
Visual recognition

5.35 The third tool was visual recognition. Depending on conditions, sometimes a ship was able to be identified visually even before her name was known. On 29 July 1940, for example, HMS KANIMBLA was proceeding to Singapore when she sighted a vessel at 22,000 yards. The Master reported:

21. “KANIMBLA” proceeded towards Singapore at cruising speed and passage was made without incident except for one “Alarm” at 0945GH on 29th July. A ship not unlike German Ship No.11 (Talbot Booth, 1939) was sighted right ahead at a distance of 22,000 yards. When the range was reduced to about 14,000 yards the ship was identified as one of the Thompson Line ships, 842/845 (Talbot Booth, 1939) probably on passage to Batavia.\(^{58}\)

5.36 This illustrates warship officers’ capacity to identify vessels at distance by reference to the silhouette, even without any signal recognition procedure. It also suggests that such silhouette identification can occur at least at 14,000 yards. It could well be that, if the VAI showed that only one ship was expected to be in the area, visual identification sufficient to determine that the ship in view was not the expected ship because of her silhouette features might be able to be made at greater than 14,000 yards, even though the precise identity of the ship might not be able to be determined at that distance. Determining that a ship sighted was not the ship expected in an area, as shown on the VAI, required much less information than establishing positively that a ship encountered was the ship she purported to be.

5.37 Once a vessel’s name was known by either signal exchange or close approach, her identity could be verified by a comparison of the size, shape, superstructure and outline of the subject vessel with known data, descriptions and pictures of silhouettes of all vessels contained in publications such as CAFO 422; BR 115, Merchant Ships Identification; ACB 0206; Talbot-Booth’s Merchant Ships; and intelligence notifications of known descriptions of raiders.

Wartime ships and recognition

5.38 As was noted in a 2 December 1940 memorandum entitled ‘Detection of Raiders’ from the Secretary of the Admiralty:

2. H.M. Ships are supplied with:-

(a) the O.U. Series of Merchant Vessel Silhouettes;

\(^{58}\) AWM.001.0060 at 0062
(b) Talbot Booth;
(c) Merchant Ship Papers (British Set);
(e) C.A.F.O’s comprising details, descriptions and lists of German, Italian and Japanese merchant vessels, indicating those which lie in the potential raider category.59

5.39 On 6 November 1940 the Naval Board sent to ‘Senior Officers, All HMA Ships’ a secret memorandum entitled ‘Particulars of merchant ships for recognition purposes’.60 It was known as ACB 0206, and it provided in part:

The attached sheets giving particulars of Merchant Ships are promulgated for the purpose of assisting H.M.A. Ships and Authorities concerned in identifying ships of the Mercantile Marine.

2. The latest known colours are indicated, but in many cases these may be peace time colours.

3. The symbol + preceding a ship’s name, indicates that a photo is available.

Sets of photos of Merchant Ships have been supplied to:-

H.M.A. Cruisers (including those serving abroad)
A.M.C.’s -MANOORA” and “WESTRALIA”

4. Amendments to the details shown in the enclosures hereto are to be signalled (L/T) to Navy Office.

5. A.C.B.0203 is superseded and all copies are to be destroyed by fire and certificates of destruction furnished to Navy Office.

By direction of the Naval Board

ACB 0206 contained the name of the ship, her gross tonnage, type (passenger or cargo tanker and whether a steamship or motor vessel), funnel shape (including its painting and the positioning on the ship), hull (including a description of the stem and stern), the colour of the superstructure, and the number and position of masts and samson posts. A space was provided for the inclusion of any remarks about the ship. Ship names were in alphabetical order. The manual was updated by signal, the ship being expected to paste over any changes advised. Figure 5.5 shows the first page of ACB 0206; Figure 5.6 shows a representative page of ACB 0206, the one on which STRAAT MALAKKA would have appeared had she been listed; Figure 5.7 shows amendments made to a page from ACB 0206.
Figure 5.5  The first page of ACB 0206, 'Particulars of merchant ships for recognition purposes'\textsuperscript{61}

\textsuperscript{61} SPC.012.0449 at 0450
Figure 5.6 A representative page from ACB 0206, ‘Particulars of merchant ships for recognition purposes’, where STRAAT MALAKKA would have appeared had she been listed\footnote{SPC.012.0449 at 0458}
### Figure 5.7
A page from ACB 0206, ‘Particulars of merchant ships for recognition purposes’, with corrections to previous descriptions.

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;SEAFRONT&quot;</td>
<td>6771</td>
<td>Frigate</td>
<td>1- funnel black</td>
<td>White</td>
<td>Red band, yellow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;SOLEIL&quot;</td>
<td>8795</td>
<td>Cargo S.</td>
<td>1- funnel black</td>
<td>White</td>
<td>Red band, yellow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;SOMERSET&quot;</td>
<td>9716</td>
<td>Frigate</td>
<td>Red cross</td>
<td>White</td>
<td>2 masts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;SOUTHERN SUN&quot;</td>
<td>827</td>
<td>Yacht</td>
<td>1- funnel white</td>
<td>White</td>
<td>2 masts</td>
<td>&quot;Panamanian&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;SWORDFISH&quot;</td>
<td>7402</td>
<td>Tanker M.V.</td>
<td>Black hull</td>
<td>White</td>
<td>2 masts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;SYROS&quot;</td>
<td>6629</td>
<td>Cargo S.</td>
<td>1- funnel black</td>
<td>Green</td>
<td>3 masts</td>
<td>Greek</td>
<td></td>
</tr>
<tr>
<td>&quot;THEMATOS G. MOHROS&quot;</td>
<td>3941</td>
<td>Cargo S.</td>
<td>1 black funnel, white band, blue &quot;S&quot; on white</td>
<td>Grey, white band, flash deck, cruiser stern, raked stem.</td>
<td>White</td>
<td>2 masts</td>
<td>Greek</td>
</tr>
</tbody>
</table>

SPC.012.0449 at 0456
5.41 As noted, also carried in warships was Talbot-Booth, *Merchant Ships*, which was a register of merchant ships listed by country of origin. It showed a silhouette of the ship and provided details of tonnage, dimensions, machinery, speed, fuel capacity, and so on.64

Thus, once the signal letters of a ship were received on a warship, officers could consult the Berne List and determine the ship’s name; alternatively, they could turn to the relevant country in Talbot-Booth (the first two signal letters having signified the country) and then to the ship’s name index under that country, which gave the number of the drawing and details of the ship. They could compare the description given there with the size, stem, stern, superstructure, masts, samson posts and colouring of the ship they had encountered and were seeking to identify. This process could begin only when the warship had received the signal letters or the two ships were so close that the warship could read the name of the other vessel.

5.42 Importantly, having received the signal PKQI from the supposed STRAAT MALAKKA, had the officers in SYDNEY consulted ACB 0206 they would have found that STRAAT MALAKKA was not listed: she was not listed until February 1942.65 This should have raised suspicion, but by then the vessels were very close.

5.43 On 21 March 1940 CAFO 422, entitled ‘German merchant vessels’, was issued. It divided the known German merchant fleet into categories showing the potential wartime use of the units. Category A was ‘Potential raiders’, and three of the five types of ships nominated as potential raiders (the other two being ships for mine laying and floating aerodromes) were as follows:

6. **A Category**

**POTENTIAL RAIDERS**

*Passenger and Mail liners* - Not more than 6 years old, and over 15 knots estimated service speed.

*Fruit ships* - Not more than 6 years old, and over 15 knots estimated service speed.

*Cargo liners* - Not more than 6 years old, and over 14 knots service speed.66

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64 For an example of the use of Talbot-Booth by a warship, see HMS MORESBY on 9 September 1940 (AWM.001.0111). Note that Talbot-Booth’s *What Ship is That?* was not published until 1943.

65 ACB 0206 was issued in November 1940. It was replaced by ACB 0216 in 1942: SPC.012.0449 at 0460.

66 NAA.013.0001 at 0002
The distinguishing features of the anticipated raiders were thus their age and speed. Age was recognisable in bow and stern hull shape. Older and slower ships were categorised as having other potential uses in the German war effort.

In all, 832 vessels were described as potential raiders, including STEIERMARK, but she was not among those nominated to be specially watched. CAFO 422 stated:

> It must not be assumed that the ships mentioned are armed. Definite information as to arming of a ship will be passed to those concerned as soon as it is received and will be included in any amending C.A.F.O.67

5.44 On 23 January 1941 CAFO 143, entitled ‘Raider identification’, was issued. It contained information described as a “handy guide” to the identification of German M.V.s disguised as raiders’. Profiles of ships most likely to be used as raiders were given, and it was noted that at the outbreak of war Germany possessed ‘890 motorships’, of which 35 per cent were suitable for use as raiders. Included was a category described as ‘cargo liners’, having a length of 450 to 550 feet and 9,000 to 10,000 gross tonnage. Also discussed were various forms of disguise that might be used; this covered painting, auxiliary equipment, funnels, superstructures, stems and sterns.68

5.45 CAFO 143 implicitly acknowledged the difficulty of identifying raiders from a distance. In particular, it stated, ‘additions may be made to the superstructure: to stems: to sterns’.69 The reader was referred to ‘Profiles of the ships most likely to be employed by the enemy as raiders’, and the profiles in CAFO 42270 were mentioned. Having noted that ‘Fruitships’ were likely to be a prime choice for raiding because of their construction and speed, CAFO 143 said, ‘A good guide to identification would be the maker’s name on the refrigeration plant in the engine room when the name Borsig might give a clue’.

In relation to cargo liners, it noted the possibility of an attempt being made to simulate the US Maritime Commission C2- and C3-type ships, and stated, ‘Examination of the machinery space should soon dispel this if boarding is possible’.71

It suggested that ‘auxiliary equipment’ on the bridge ‘would be inspected early in the search’ and that the base of the funnel should be

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67 NAA.013.0001 at 0002
68 NAA.013.0047
69 NAA.013.0047
70 NAA.013.0001
71 NAA.013.0047
inspected for ‘signs of recent removal’.\textsuperscript{72} In relation to the superstructure, it stated, ‘Any structure of a temporary nature could be recognised on boarding by the method of attaching to the main structure’.\textsuperscript{73} And, on the engine room, it noted, ‘The existence in the engine room of a M.A.N. type oil engine does not, however, mean that the ship is German-owned’.\textsuperscript{74}

5.46 Each of these references was to recognition processes conducted \textit{after} boarding. They implied that recognition processes might be inadequate before boarding and that detailed on-board inspection to detect a raider might be necessary. Implicitly, it acknowledged that the recognition signals procedure promulgated four weeks previously could be inadequate and that boarding the suspect vessel might be required. It assumed that the vessel could be safely boarded.

5.47 These measures—signalling, visual recognition and possible boarding—were being promoted at a time when it was known that if the vessel was a disguised raider it would be equipped with 15-centimetre guns, torpedoes and other armaments and could accurately fire salvos at long range.

The improbability of being able to board an armed, disguised raider in order to conduct a detailed inspection so as to ascertain whether it was or was not a raider does not appear to have been appreciated.

\textbf{Aspects of ship recognition}

5.48 In 1941 experienced seamen, particularly Naval officers, had the capacity to identify ships visually by reference to the ships’ structural form. Merchant ship recognition books issued to warships—such as ACB 0206, Talbot-Booth and BR 115 (\textit{Intelligence Division Naval Staff Merchant Ship Identification})—proceeded on that premise. Appendix K shows extracts from BR 115, giving instruction in the method of visual identification and examples of ship silhouettes from various countries.\textsuperscript{75}

5.49 The presumption that Naval officers could identify ships from their structural form is demonstrated by a ‘Description of German armed raider “number 16”’, prepared by HMAS CANBERRA from intelligence received from survivors recovered after the sinking of KETTY BROVIG and COBURG in March 1941:
The following is a description of “NUMBER 16” – A sketch silhouette is attached as Appendix III to this report – taken from descriptions from the Chinese and Norwegian survivors. The former seem to have been most observant, and were very definite in their evidence.

(a) General Appearance – A “cross” between “REICHENFELS” (O.U. 6329 (1) Page 2. No. 39) and Commander in Chief, East Indie’s diagram 0610 of 8th December 1940.

(b) Tonnage – 8,000. Length about 450 feet.

(c) Engines and Speed – Diesel – Maximum 20 knots.

(d) Hull – Maierform bow, short forecastle, long poop, and low slung counter stern. Well decks (which can be disguised by false plating) between forecastle and bridge, and between midships house and poop. Five hatches – two in forward well deck, one between bridge and funnel, and two in after well deck.

(e) Funnel – One high vertical funnel – disguised, by light plating as oval, just abaft number three hatch.

Note: Fittings on deck abaft this funnel were noticed by a Norwegian Officer which might possibly be clamps, etc, for an additional dummy funnel. A further possibility is that as the ship is a Diesel ship, funnel can be erected in either one of two positions.

(f) Masts, Derricks and Sampson [sic] Posts. – Two heavy vertical masts stepped between numbers one and two, and numbers four and five, hatches respectively. Each mast has a heavy cross tree high up, which is apparently built up into large crow’s nests. Eight Samson posts – two at the after end of the forecastle, two immediately before the bridge, two between the after end of number three hatch and the funnel, two at the forward end of the poop. Of these posts the second and third pairs are dummys built up of oil drums (approximately 44 gallon size), which can be raised or lowered as desired. Permanent posts are about the height of the bridge. Derricks are stowed horizontally.

(g) Superstructure. – The Bridge, which is not as high as the funnel, is immediately abaft No. 2 hatch and is of normal appearance. It is separated from the midship house by No. 3 hatch. (Note: The Chinese say there was no hatch here but the Norwegians do, and Commander in Chief East Indies diagram confirms it). This house stretches between Nos. 3 and 4 hatches and has the funnel (which is approximately in the centre of the ship) at its fore end.

A collapsible deck house (over the after gun) may be fitted on the poop. (The Chinese stated they knew there was a gun on the poop although they never actually saw it).

(h) Armament. – Two or three guns each side mounted in the well decks, and one “large” gun on the poop (indicating 4” and 6”
respectively). Chinese survivors state there was also a “large” gun on the forecastle, but the Norwegian Officers consider that there was not.

Chinese survivors stated that both torpedo tubes and searchlights are mounted, and that there were smaller guns (a total of six), but could give no further details (Note: possibility of searchlights in the built up crosstrees). No details concerning aircraft are available but as “BENARTY” was bombed, it may be presumed “NUMBER 16” carried one at that time. (Note: possibility of its having crashed since)

(k) **Colour.** – Hull and funnels Black. Upper works Grey.76

STRAAT MALAKKA was shown in the 1940 Netherlands index in Talbot-Booth.

5.50 Thus a warship could compare the features of the merchant ship encountered with those of the vessel shown in the reference books and so determine if she was structurally the same. If she was not, suspicion should be aroused. This method allowed identification of raiders by a process of elimination.

**Observable physical aspects**

5.51 Figure 5.8 shows the different types of ship’s bow; Figures 5.9 and 5.10 show different types of stern.

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76 NAA.069.0231
77 Extracted from BR 115, *Intelligence Division Naval Staff Merchant Ship Identification*, November 1941, p. 21: PTE.003.0166 at 0178.
KORMORAN’s hull features

5.52 KORMORAN had a sharply raked bow, ‘raked’ meaning sloping forward from the waterline (see Figure 5.11).

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78 PTE.003.0166 at 0178.
79 PTE.003.0166 at 0178.
5.53 Sharply raked bows, or stems, were features of merchant ships built in the early and middle 1930s. Ships with a straight, vertical stem were invariably built before the 1930s. The British and Greek mercantile fleets had a large proportion of ships with straight, vertical stems. A vessel with a slightly less raked (or ‘Maier’) stem was invariably either German or Dutch.\(^81\)

5.54 If the viewer’s perspective is restricted to that part of the ship’s bow above the waterline, merchant ships with raked stems appear very similar to merchant ships with a Maierform bow. The raked stem design was developed on the basis that it would increase a ship’s speed because it lessened water resistance.

5.55 KORMORAN’s Maierform bow, which is apparent in the photographs of STEIERNARK at the shipyard in Kiel (see Figures 3.1 and 3.2), is not evident in the photographs of KORMORAN when she is likely to have been holding stores and ballast (see, for example, Figure 5.12). To an observer whose view was limited to that part of the ship’s stem above the waterline, such a perspective of KORMORAN’s bow would suggest one of two things:

- a merchant ship of 1930s construction with a raked stem
- a German or Dutch merchant ship of 1930s construction with a Maierform stem.

\(^80\) BUA.001.0001.0007
\(^81\) PTF.003.0166 at 0178
Another observable hull feature of KORMORAN was her cruiser stern. Cruiser sterns are rounded, like the sterns of warships, as opposed to the older type of cut-away counter or elliptical type of stern. Cruiser sterns became popular in the late 1930s because they were thought to make for greater speed and strength.

The stern of a merchant ship thus gave important information about the ship’s age and speed. Ships that were modern in 1941 had either a cruiser stern or a cruiser spoon stern and were capable of a speed of more than 10.5 knots when fully laden with cargo.

KORMORAN’s truncated cruiser stern is plainly visible in Figure 5.12; it is also visible in Figure 5.13; viewed from abaft (see Figure 5.14), her stern has a more rounded appearance.
Figure 5.13  KORMORAN’s truncated cruiser stern

Figure 5.14  KORMORAN viewed from abaft the beam

84 PUB.060.0001 at 0096
85 BUA.001.0001.0006
If one approached KORMORAN from abaft on the starboard quarter, as SYDNEY did, the cruiser stern visible at distance should have narrowed the age of the vessel to the late 1930s.

**KORMORAN’s superstructure**

Cargo liners of the 1930s had distinctive superstructures of one of two types—split deck and composite deck.

A composite superstructure usually consisted of a three- or four-deck erection built above the shelter deck. Normally, the crew’s quarters were on the shelter deck. On the deck above that there were quarters for passengers and, above that, the navigation bridge. According to BR 115, ‘This type of superstructure is invariably found in fruit ships and in medium-sized fast cargo liners flying the Norwegian, Swedish, Danish and German flags’.

Diagram 3 in Figure 5.15 shows a (then) typical modern motor ship composite superstructure. The more squat, oval-shaped appearance of the funnel in diagram 1 (and in the modern motor ship in diagram 3) contrasts with the taller, rounder funnels used by steamers, as shown in diagrams 2 and 4.

Figure 5.16 shows perspective of KORMORAN’s superstructure, one feature of which was the *Peildeck*, or signal deck, located above the third deck and aligned with the leading edge of the top of the third deck. The framework of the *Peildeck* can also be seen. At the time of the encounter between SYDNEY and KORMORAN, the *Peildeck* appeared to have been enclosed by canvas sheets.

A curved (streamlined) superstructure was a characteristic of German merchant ships constructed just before World War 2.

The line of KORMORAN’s deck was also broken by the poop deck, as shown in Figure 5.16.

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86 PTE.003.0166 at 0179
87 WIT.011.0183_R at 0206_R
88 PTE.003.0166 at 0184
1. Modern motorship 'composite,' Accommodation for twelve passengers here. Dutch and Swedish cargo liners.

2. Steamer 'composite,' with boilers arranged on deck and above the engine. Mainly Norwegian and Danish coal fired.


5. Earlier motorship 'split.' This ship has no funnel, only an exhaust pipe. Norwegian, Swedish and Danish cargo liners.

Figure 5.15  Drawings extracted from BR 115, Intelligence Division Naval Staff Merchant Ship Identification

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89 PTE.003.0166 at 0180
Identification: STRAAT MALAKKA

KORMORAN’s appearance fitted the suspected profile of a possible German raider in many respects.

Once an observer was abeam the ship in good visibility, a number of KORMORAN’s features would have been readily apparent. Her large size, the fact that she was a cargo liner, her raked bow and cruiser stern, her diesel–electric propulsion, her modern construction, her possible German origin, her modern motorship composite superstructure, her squat funnel, her two large mainmasts and two pairs of samson posts, and her long, flushed deck (save for the raised forecastle and poop deck) would all be readily identifiable. Some of these features might have been evident as SYDNEY approached on KORMORAN’s starboard quarter. KORMORAN’s modern composite superstructure was, however, a feature she shared with some Dutch and Norwegian merchant ships.

If KORMORAN was seen at sea, her military potential would not have been readily apparent. Her torpedo batteries, 15-centimetre guns, 37-millimetre guns and 20-millimetre guns were all camouflaged, by either metal flaps or raised coamings. None of the other then modern accoutrements of Naval warfare—such as rangefinders, powerful searchlights, mine-laying capability and powerful radio transmitters and receivers—could be discerned. KORMORAN’s aircraft and her mine-laying motor launch were all hidden in holds. But if SYDNEY was seeking to determine whether the unidentified vessel she had changed course to intercept was a German raider she would not have expected

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90 PUB.014.0001 at 0103
such elements to be visible if the vessel was a disguised raider. She would expect the raider to appear as a normal merchant vessel, which KORMORAN did, as the foregoing photographs demonstrate.

 Those on SYDNEY’s bridge observing the unknown vessel would probably have identified the vessel as a large, modern, cargo-carrying, late-1930s vessel with oil-fired propulsion, having a split superstructure, capable of long voyages at good speed, and likely to be German, Dutch or Norwegian.

5.64 Once a vessel was sighted, the identification procedure promulgated on 25 December 1940 and in Naval Control Service Instruction 371 should have been implemented. CAPT Burnett was well aware of this procedure. This is apparent from the following:

• On 7 September 1941 he wrote a report to the Rear Admiral Commanding the Australian Squadron, detailing three occasions on which merchant ships had not complied with the proper procedure. His memorandum, entitled ‘Recognition procedure’, stated:

While recently escorting Convoy U.S. 12A., three instances occurred of Merchant Ships, having made their Signal Letters in reply to the signal NNJ, failing to respond to the Warship – Merchant Ship Recognition Procedure. The Merchant Ship either continued to make her Signal Letters or made no further sign at all.

2. On two occasions, owing to the good visibility, it was possible to establish the friendly nature of the ship with reasonable confidence at a satisfactory range, but on one occasion it was considered prudent to alter the course of the convoy away until the unidentified ship was at a safe range. It is accordingly recommended that Naval Control Service Officers should impress on Masters the need of having all officers well acquainted with the recognition procedure.

3. The ships, to which this letter refers, were the “GABRIELLA”, “ATHLONE CASTLE” and “COLUMBIA STAR”. In other cases the recognition procedure was carried out with gratifying efficiency.91

It is to be noted that SYDNEY’S log records ATHLONE CASTLE as having been identified at 0410 on 5 September 1941.92 Neither GABRIELLA nor COLUMBIA STAR is referred to in the ship’s log or war diary for this period.

91 NAA.010.0061
92 NAA.013.0085 at 0091
The passage quoted makes it clear that not only was CAPT Burnett aware of the correct procedure and the need to carry it out; he was also aware of the need to carry out the procedure ‘at a satisfactory range’ or ‘a safe range’.

- On 4 October 1941 SYDNEY implemented the correct procedure in identifying SALLAND, and CAPT Burnett reported on this.93

5.65 It was only on receipt of the signal PKQI from KORMORAN that SYDNEY had the opportunity to compare observable physical features of the ship before her with those in Talbot-Booth for STRAAT MALAKKA. SYDNEY’s position and distance from KORMORAN at the time of receipt of that signal are discussed elsewhere. If, however, SYDNEY had been able to make that comparison, in silhouette from abeam she would have observed the differences summarised in Table 5.1. Figures 5.17 to 5.20 illustrate many of the differences.

5.66 To an experienced seaman looking from abeam, the stem, stern, superstructure and samson posts would have appeared very different from those of STRAAT MALAKKA as shown in Talbot-Booth. But by the time SYDNEY was abeam KORMORAN she (SYDNEY) had lost all tactical advantage and was in a compromised position.

<table>
<thead>
<tr>
<th>Table 5.1</th>
<th>The features of KORMORAN and STRAAT MALAKKA: a comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KORMORAN</strong></td>
<td><strong>STRAAT MALAKKA</strong></td>
</tr>
<tr>
<td>A 9,400-ton three decker, 157 metres long</td>
<td>A 6,400-ton single decker, 139 metres long</td>
</tr>
<tr>
<td>Cruiser stern</td>
<td>Counter stern</td>
</tr>
<tr>
<td>Poop deck and high back, enclosing a fairly substantial area above the stern</td>
<td>Small deck erection at the poop deck</td>
</tr>
<tr>
<td>Four samson posts</td>
<td>Eight samson posts</td>
</tr>
<tr>
<td>Solitary, prominent ventilator derrick post abaft the funnel</td>
<td>No equivalent feature</td>
</tr>
<tr>
<td>Excessively raked Maierform bow</td>
<td>Raked bow</td>
</tr>
<tr>
<td>Funnel positioned abaft the square bridge superstructure, the front edge of which was streamlined or curved</td>
<td>Funnel positioned directly above the square bridge superstructure</td>
</tr>
<tr>
<td>Generally open, bare appearance above the main deck</td>
<td>Skyline relatively crowded with masts and samson posts</td>
</tr>
<tr>
<td>Peil, or signal deck, above the bridge</td>
<td>No equivalent feature</td>
</tr>
</tbody>
</table>

93 NAA 010.0225 at 0227
Figure 5.17  Drawing of KORMORAN

Figure 5.18  Drawing of STRAAT MALAKKA

Figure 5.19  Silhouette of STRAAT MALAKKA

80. STRAAT MALAKKA, STRAAT SOENDA.

Konkink, Paket

Tonnage: 6,400 G., 3,900 N., 8,600 Dwt, 14,900 Dwt.
Machinery: Oil engines, twin-screw, 1,240 N.H.P., 16½ knots, 8,000 S.H.P.
Fuel Capacity: 1,140 tons.
Builders: Van der Giessen, 1939.
Cargo: 509,000 c.f. G., 488,000 c.f. B.
Complement: 12 passengers.
Remarks: Single deckers with shelter deck.

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94 COI.011.0026
95 COI.011.0027
96 PUB.023.0001 at 0009

The Loss of HMAS SYDNEY II  277
Communication between ships

5.67 In 1941 communication between ships could occur using wireless transmission, signal light or flags. During wartime, however, wireless transmission at sea was avoided because of the fear that it might allow the enemy to locate a vessel by using direction finding equipment.\(^\text{98}\) This meant that the commanding officer of a warship approaching an unidentified merchant vessel would communicate with it only by signal light or flags.

5.68 A warship’s usual method of signalling was by signal lamp. The evidence before me was that messages flashed by SYDNEY’s lamps could be read at a distance of 8 to 10 miles.\(^\text{99}\) If merchant vessels responded by signal lamp, identification could occur at this distance without the risk of the warship approaching within range of any armament or torpedoes of the unidentified merchant vessel. Signalling by lamp would also mean that if a warship detected the presence of an unidentified merchant vessel during darkness, communication could occur between the vessels at distance.

5.69 The Inquiry was informed that during World War 2 merchant vessels often did not communicate using signal lamps, even if they carried the lamps; their normal method of communication was by flag.\(^\text{100}\) The

\(^{97}\text{BUA.001.0001.0005}^{98}\text{SUBM.001.0001_R at 0005_R}^{99}\text{WIT.007.0001_R at 0006_R}^{100}\text{TRAN.014.0001_R at 0072_R}^{101}\)
result was that it was often necessary for a warship to close on an unidentified merchant vessel to a distance at which, with the aid of a telescope or binoculars, flags could be read. The evidence before me was that in daylight, with good visibility and with wind to blow the flags out, flags could be read from up to 5 miles away \(^{101}\), although it was recognised that ‘it is sometimes difficult to read a flag hoist at as little as a mile’. \(^{102}\) At night, it meant that a warship must close to a distance at which its searchlights could illuminate the flags so that they could be read. This distance was about 1 mile. \(^{103}\)

5.70 KORMORAN and other German raiders carried 15-centimetre guns with a range of 18,000 yards. \(^{104}\) As a result, the need to read a disguised raider’s flags meant that the warship came within range of the raider’s guns. The warship was thus at some risk.

The conundrum facing a commanding officer—whether or not to approach close in to identify a merchant vessel—was recognised by LCDR G Davis RAN, Commanding Officer of HMAS SWAN. On 7 January 1941 he wrote to the Senior Officer 20th M/S Flotilla a report that on 8 January 1941 was submitted to the Secretary of the Naval Board for the board’s information. SWAN was required to rendezvous with HMAT ZEALANDIA and escort her into Hobart. She performed that task. LCDR Davis noted, however:

I was unable to communicate with “Zealandia” except by flag hoist “Zealandia” apparently carrying nothing in the way of a daylight flashing lamp. This means that she would have to allow any ship to come uncomfortably close before identification could be assured. “Zealandia” did not appear to have heard of the latest form of identification between warships and merchant vessels – viz – Navy Circular 393 F. \(^{105}\)

5.71 The fact that it was necessary for a warship to come ‘uncomfortably close’ to an unidentified merchant vessel, meant that the warship placed itself in danger if the unidentified vessel turned out to be a disguised armed raider. Coming close to an unidentified merchant vessel severely eroded the warship’s advantage of superior armaments at distance, speed and armour, and tactical positioning.

5.72 The use of flags for recognition signalling was maintained in practice until at least 1943. In that year masters of merchant vessels were given a document containing the identification signal they should use for

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\(^{101}\) WIT.007.0001\_R at 0006\_R
\(^{102}\) NAA.074.0065
\(^{103}\) NAA.010.0092: Ships could be illuminated by searchlight at a distance of 1 mile.
\(^{104}\) SPC.002.0230 at 0231
\(^{105}\) NAA.010.0105
particular voyages, the document to be surrendered at the conclusion of
the voyage. The document was in the following form:

1. Your Identification Signals for the voyage from Sydney to ___ are
given overleaf.

2. **OUTSIDE PATROL AREAS:** You are to hoist or flash these
letters, together with your Signal Letters, on being challenged by a
warship or aircraft, with letters OE, made by flags or flashing.

3. **INSIDE BRITISH AND U.S.A. PATROL AREAS:**

   **BY DAY:** You are to hoist your Signal Letters and Identification
   Signal on the approach of a warship or aircraft, who will **NOT**
   challenge you.

   **BY NIGHT:** Your Signal Letters and Identification Signal are to be
   kept hoisted. Warship will read the flags by searchlight, or will
   challenge by flashing OE, in which case reply is to be made by
   flashing. Aircraft will challenge by flashing OE when you reply by
   flashing.

4. Signal Letters and Identification Signal are to be hoisted in the
most conspicuous place, preferably the Foremast Head or Triatic
Stay.

   **NOTE:**– PATROL AREAS are 200 miles from the Australian, New
   Zealand and North American Coasts.

   (The North American Coast includes all the islands of the Hawaiian
   Group.)

5.73 One aspect of a commanding officer’s dilemma was thus whether he
should approach to within range of an unidentified merchant ship’s
armaments, given that the vessel might be a raider. The warship was
obliged to so approach in order to perform the recognition procedure
required by the Admiralty direction of 25 December 1940 and by the
Naval Board. As long as communication by merchant vessels was by
flag, such an approach was necessary.

**Use of aircraft for identification**

5.74 There was one procedure that, in theory, provided an entirely safe
method of recognition of an unidentified merchant vessel. If the ship
was equipped with an aircraft the ship could stand-off beyond
armament range and launch the aircraft to identify the vessel. In 1941
SYDNEY and PERTH had such an aircraft but HOBART did not.

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106 NAA.010.0008
There were, however, circumstances that could prevent use of the aircraft for identification purposes. Weather, wind strength and sea conditions all affected the capacity to launch and recover a plane at sea.

5.75 If the aircraft could be used to identify the merchant vessel, that meant the aircraft had to communicate with the merchant vessel in order to identify her (or otherwise visually do so) and report the results back to the warship.

5.76 Two things of importance are to be noted. First, the identification system laid down by the Admiralty on 25 December 1940 was not dependent on a warship having an aircraft. Indeed, the system assumed recognition by exchange of signals between the two ships. Second, the logs make it clear that in 1941 neither SYDNEY nor PERTH used the ship’s aircraft for identification purposes whilst operating off the Australian coast.107

5.77 CAPT Burnett had to consider at least four factors when deciding whether to launch the Walrus to identify a vessel:

- To launch the Walrus, it was necessary to turn the ship side-on to the prevailing wind so that the Walrus could be catapulted into the breeze and gain lift.108

- The ship had to be slowed to a low speed so as to minimise the air flow created by the bow, which affected the aircraft’s capacity to successfully launch.109

(Each of these two factors meant loss of time and loss of speed, which had to be weighed against the desire to identify the vessel as soon as possible. Delay might have enabled the vessel to escape into the falling darkness.)

- The time of day might have been important. KORMORAN was sighted at about 1700. The remaining daylight hours were thus limited, and the capacity to recover the aircraft in fading light and then de-fuel it could have been a consideration.

- Recovery of the aircraft was a task involving a risk of damage to the aircraft, particularly if the recovery had to be effected in other than calm waters. The aircraft did have a range sufficient for it to fly to an airfield ashore and be recovered later, but this might have

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107 NAA.013.0052; NAA.013.0085; NAA.013.0116; NAA.014.0001; NAA.014.0031; NAA.014.0064; NAA.014.0097; NAA.014.0129; NAA.014.0162; NAA.014.0195; NAA.062.0215; NAA.062.0252; NAA.062.0286; NAA.062.0321; NAA.062.0353; NAA.062.0386; NAA.062.0418
108 CORR.004.0001_R at 0002_R
109 CORR.004.0001_R at 0002_R to 0003_R
involved difficulties or complications. It is reasonable to assume a
commanding officer would prefer to recover the ship’s aircraft
using the ship’s facilities if possible.

Consideration of these factors, and perhaps others, had as a matter of
fact so weighed on the commanding officers of SYDNEY and PERTH
throughout 1941 that, during that year, as noted, their ships’ aircraft
were never used off the Australian coast for identification purposes.

5.78 Difficulties with launching aircraft from Leander and Modified Leander
Class ships were not confined to Australian vessels. When advocating
removal of aircraft from such ships, VADM Pridham-Wippell wrote to
the Commander-in-Chief, Mediterranean, on 28 December 1940, with a
copy to the Australian Naval Board:

(a) The continued menace of air attack in fleet operations frequently
necessitates [the aircraft] being kept at one hours notice, this together
with the complicated procedure necessary to launch the aircraft and its
limited endurance etc. makes the problem of selecting the correct
moment to fly off a most complex matter with the result that not
infrequently it is done too late or not at all.

(b) During enemy air attacks the aircraft is frequently rendered
unserviceable from our own ships gunblast or splinters from near
misses. This combined with the necessity of periodical inspection
results in the aircraft being unserviceable for almost as long periods as
it is available for use.\footnote{NAA.O60.0001 at 0003}

5.79 Another consideration was, as noted by VADM Pridham-Wippell, that
muzzle blast from the two rear 6-inch Mark XXI guns, if fired on
forward bearings, and from the 4-inch Mark V guns, which were close
to the aircraft, posed a risk of causing ‘disabling structural damage’ to
the aircraft. This was well known.\footnote{CORR.004.0001_R; see also PUB.033.0001 at 0088.}
It might even be a reason for preparing the aircraft to launch—if the Commanding Officer thought he
might have to fire the guns.

5.80 When SYDNEY went to action stations under CAPT Burnett’s
command it was not the invariable practice for the catapult to be
rotated outboard and the Walrus started and launched. That is evident
from the ship’s log for 1941. The log records when SYDNEY went to
action stations and also when the Walrus was launched and recovered.
There is no correspondence between the two events. On the four
occasions between May and October 1941 when SYDNEY went to
action stations (apart from the regular pre-dawn action stations), the
Walrus was not launched. Further, the log independently makes it clear

\footnote{NAA.O60.0001 at 0003}
\footnote{CORR.004.0001_R; see also PUB.033.0001 at 0088.}
that the Walrus was never used in 1941 off the Australian coast for identification purposes.

5.81 SYDNEY sighted KORMORAN at a distance of about 25 miles and turned towards her. Having regard to the probable differential in the speeds of the two vessels, there was time for SYDNEY to launch the Walrus to inspect KORMORAN had CAPT Burnett chosen that course. The factors to which I refer, however—the difficulties of launch and recovery, the time, the weather, the consequent delay in approach to the vessel, coupled with the practice of the Walrus not being used off the Australian coast for identification purposes—perhaps provide a basis for CAPT Burnett, as a matter of command judgment, deciding not to launch the Walrus to seek to identify the vessel. If the evidence of some German survivors is accepted, the Walrus was on the catapult, slung outboard and with its engine running. This would suggest that CAPT Burnett considered flying-off the Walrus but decided against doing so.

5.82 Had the Walrus been launched to identify the unknown vessel, this would have been the first time a plane had been launched for that purpose from any Australian ship operating off the Australian coast in 1941.

5.83 When going to action stations in response to an anticipated battle with enemy warships, as in the Mediterranean campaign in 1940, SYDNEY launched her Walrus aircraft. That was for at least two reasons. First, the aircraft was used to locate enemy warships and inform SYDNEY of their course and speed and whether they were in the company of other enemy ships. This gave SYDNEY a tactical advantage. Second, the aircraft called the fall of shot once SYDNEY opened fire at distance, thus enabling more accurate gunnery.

5.84 The Mediterranean theatre was a situation entirely different from the one in which SYDNEY was operating off the Australian coast, where the only risk was a raider or possibly a submarine, where there was no expectation of battle, and where the main task was the identification of a sighted merchant vessel.
Conclusion

5.85 Having regard to the VAI, the plot maintained in SYDNEY, the books of reference SYDNEY carried, and the skills common to experienced senior officers in ship recognition, the following matters are established:

- When KORMORAN was first sighted, some 25 miles distant, and SYDNEY had changed course to investigate the sighted ship, reference to the VAI and the plot would have clarified for CAPT Burnett whether vessels were expected in the area. He must have known no vessel was expected in that location.

- Once SYDNEY had read KORMORAN’s flag signal—PKQI, indicating she was STRAAT MALAKKA—it would have been known that that ship was not expected in the area because STRAAT MALAKKA was not on the VAI. Further, after the books of reference had been consulted about the characteristics of STRAAT MALAKKA, it would have been known that the sighted ship was not STRAAT MALAKKA, once KORMORAN’s silhouette was sufficiently discernible for a comparison to be made.