

## LISTENING FOR THE EMPIRE

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The “Burden of Empire” was a journalistic phrase often used during the late 19<sup>th</sup> and early 20<sup>th</sup> Century to describe the sense that Great Britain was solely responsible for the defence of the conglomerate of Dominions, self-governing colonies, colonies, crown colonies, protectorates and other geological entities which constituted the British Empire. This phrase was usually accompanied by a table showing British naval and military expenditure as opposed to that of the various constituents of the Empire. Whilst this type of article may have made good press it did not accurately reflect the contribution of the Empire to overall collective defence of the Empire.

During the Boxer Uprising, Boer War and First World War the Empire’s contribution could be measured in terms of men, equipment and raw materials. In peace time such a measurement is more difficult. In the case of the Army and Air Force peacetime contributions to Imperial Defence were limited to exchanges of a few personnel and correspondence. With the possible exception of the Indian Army, there were no overseas military expeditions to which Empire soldiers were committed. The Navy however, represented a different case.

In peacetime Dominion and Colonial navies, where they existed, trained and operated and as we have heard here today in the case of Australia loaned and exchanged cruisers with the Royal Navy. In addition men from the various Imperial possessions also enlisted in the Royal Navy.<sup>1</sup> These Imperial possessions also provided the Royal Navy with bases from which it could operate and maintain a global presence. Behind this public face of co-operation lay a more secretive one, co-operation in a worldwide naval intelligence network. This global naval intelligence network had its origins in 1883 when the Admiralty began assigning dedicated intelligence officers to various posts around the world. As the political and technological circumstances changed so did the Empire’s contributions to this global intelligence network.

This paper will detail the contribution of the Pacific Dominions and other smaller colonies to the development of a Royal Navy signals interception and direction finding network covering the Asia-Pacific region during the inter-war years.

The colonial contribution to this network commenced in March 1921 when, during the Penang Naval Conference it was proposed that two groups of direction finding stations be established in the Asia Pacific region: the first at Seletar (Singapore), Kuching (Sarawak) and North Borneo; the second at Nauru, Rabaul (New Britain) and in New Guinea. In addition to these, ships used for trade protection were also to be fitted for DF work, and a number of other portable units provided.<sup>2</sup> The intention was that this extensive network would form part of the Pacific Naval Intelligence Organisation, to be established at the Singapore Naval Base when this facility was fully operational. At the time of the Penang conference there existed in Australia, New Zealand or Canada neither specialist signals intelligence facilities or the trained people to operate them.

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<sup>1</sup> Usually only those of English or European stock were allowed to enlist.

<sup>2</sup> NAA, MP1587, item 311J, "Report of Penang Naval Conference—March 1921", dated 11 April 1921.

This requirement for trained personnel was also recognised by the RN and they provided the RAN representative at the Conference with a copy of the Japanese Telegraphic code for Naval Vessels. The intent was to commence training RAN Telegraphists in the interception of Japanese morse. The code was the Japanese equivalent to morse code.

The intention, in 1921, to train naval Telegraphists in reading Japanese morse is interesting when it is considered that after the First World War, work on naval codes and ciphers by the RN virtually halted.<sup>3</sup> The reason for this halt was the lack of a suitable naval target and the fact that the newly-established Government Code and Cypher School was concentrating on diplomatic intelligence. However, this decision was reversed in 1924, when a Naval Section was added to the GC&CS and naval interception stations were established to complement the existing direction-finding (DF) capability.

The raw data for this section was initially obtained from the Royal Navy's intercept station at Flowerdown, Hampshire, England. This station was to prove inadequate for the task of intercepting Far Eastern and other traffic, and a system of using RN ships on foreign naval stations was put in place. This new method of signals intelligence collection was given the designation "Procedure Y". As part of these changes a small naval cryptographic unit was established and attached to HMS *Hawkins*, flagship of the China Station. To assist in the provision of raw material for the Hong Kong cryptographic unit, an intercept station was established on Stonecutter's Island in Hong Kong, with a second station eventually being set up at Singapore.

The placing of the cryptographic unit onboard the flagship was to prove to be an inadequate solution. When the flagship sailed from Hong Kong the cryptographic unit either went with the ship or had to be landed. If they sailed with the ship then intercepts had to be sent to them by W/T, an insecure form of communications. If they remained in Hong Kong any intelligence gained had to be sent to the Commander in Chief by W/T. Ultimately it was decided that the cryptographic unit should remain ashore.

In 1935 a new combined intelligence and cryptographic organisation was established in the Far East by the amalgamation of the various existing single service intelligence bodies with the naval cryptographic unit. The objective of this new organisation was to better co-ordinate the collection and evaluation of intelligence in the region. This new organisation was co-located with the existing cryptographic unit operating at the Royal Navy dockyard in Hong Kong. The new organisation was designated the Far East Combined Bureau (FECB). Though described as a combined organisation much of the cryptographic work done by the FECB was naval in nature, almost to the exclusion of the other two services, as neither the Army nor the RAF had the required facilities or personnel. Though established in Hong Kong this was not necessarily the permanent home of the organisation, as the naval base at Singapore was always intended to have, as one of its roles, a higher command function in wartime.

The new organisation was headed by a Royal Navy captain designated Chief of Intelligence Staff (COIS). He also served the Head of the Naval Section, which included the Far East Direction-Finding Organisation (FEDO) whose primary targets were German, Japanese, Russian and Italian naval units. The FEDO and the Admiralty's Reporting Officer organisation enabled the FECB to maintain an extensive plot detailing the movements of

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<sup>3</sup> William F. Clarke, "Government Code and Cypher School: its foundation and development with special reference to its Naval side", *Cryptologia*, vol.11, no.4, October 1987, p.221.

Japanese naval and merchant ships as well as other shipping of naval interest. There was also an Army and Air Force Intelligence Section. Each Section communicated directly with their parent intelligence organisation in London. The W/T and D/F section of FECB, designated "W" Section, also communicated with the GC&CS in England. The main naval signals intelligence targets of the FECB were Japan and Russia.<sup>4</sup>

The duties assigned to the FECB were to "collect all intelligence from all principal Authorities in the Indian-Pacific Oceans".<sup>5</sup> The collection of intelligence was done by each of the individual services through their own organisations. The service sections would then select the information that they saw as being important and this would then be pooled for collation and distribution. Distribution of the intelligence would be in either the form of a statement of fact or an appreciation. Each service section would distribute the intelligence to its respective command. In the case of Navy, the principal recipients were the Admiralty, the Commander-in-Chief China and the Commander-In-Chief East Indies. If a combined appreciation was compiled then this would be distributed to the three services as a whole. Any differences of opinion which occurred in the compilation of this combined appreciation would be noted. Their aim was to build up a picture of the Japanese Order of Battle and provide advance warning of the possible outbreak of hostilities with Japan.<sup>6</sup>

The work of the FEDO and the intercept stations was controlled from London by the Y Sub-Committee, of the Co-ordination of W/T Interception Committee. The intercept program of the services was approved by this committee and determined in part by the needs of the "cryptographers and half by the needs of traffic analysts".<sup>7</sup>

As a consequence of the efforts applied by the FECB and GC&CS, the main Japanese military and naval ciphers had been broken by 1935.<sup>8</sup> This meant that naval work could be redistributed so that by 1937 the Japanese naval codes and ciphers were being worked on exclusively by the FECB. The Naval Section at the GC&CS was working on other naval ciphers. However, as a consequence of changes to the Japanese cipher systems in 1938 and 1939, which rendered them unreadable, it became necessary to employ Army cryptographers at GC&CS on Japanese naval ciphers. These new systems began to yield to the cryptographic assault by September 1939. The first to do so was the Japanese Fleet code.<sup>9</sup> However in March 1941 Commander J. B. Newman, the officer in charge of the RAN's shore wireless stations and Director of Naval Signals and Communications at Navy Office in Melbourne, reported that the W Section had "been virtually the sole source of intelligence since October 1940, when the Japanese codes and ciphers were last changed".<sup>10</sup> Unfortunately no information is provided as to exactly which codes these were. Newman went on to state that

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<sup>4</sup> NAA, MP1185/8, item 2021/5/529 – "Y, W/T and D/F", undated notes c.1940-41. Though unsigned this document is on Admiralty embossed paper.

<sup>5</sup> NAA, MP1185/8, item 2021/5/529 – "Notes on Captain Wylie's Visit", minute by DNI dated 10 January 1941.

<sup>6</sup> A. J. Marder, *Old Friends, New Enemies: the Royal Navy and the Japanese Navy – strategic illusions 1936-1941* (London: OUP, 1981), p.357.

<sup>7</sup> Captain H. R. Sandwith, RN, quoted in J. Bryden, *Best Kept Secret: Canadian Secret Intelligence in the Second World War* (Ottawa: Lester Publishing, 1993), p.128.

<sup>8</sup> F. H. Hinsley, *British Intelligence in the Second World War: its influence on strategy and operations* (London: HMSO, 1979), p.52.

<sup>9</sup> NAA, MP1185/8, item 1937/2/415 – "Establishment of a Cryptographic Organisation in Australia", DSC minute dated 19 March 1941.

<sup>10</sup> NAA, MP1185/8, item 1937/2/415 – "Establishment of a Cryptographic Organisation in Australia", DSC minute dated 19 March 1941.

the degree of success being achieved had improved and that "Consular, Diplomatic, four figure naval and Merchant Ship broadcast codes and ciphers have now been made available from friendly sources".<sup>11</sup>

The ability of the naval HF/DF stations at Stonecutter's, Kranji and Bombay Fort (India) to track ship movements was tested in early 1939 when a tracking exercise was held using the cruiser HMS *Kent* as the target. These stations tracked *Kent* on her voyage from Hong Kong through to Sandakan in Borneo. The results achieved were mixed, with *Kent* at one time being fixed by these stations well to the west of Saigon! At other times reasonable positions were obtained. The exercise clearly demonstrated the need for additional HF/DF stations in the region, especially in the south.

As relations with Japan deteriorated the decision was taken to relocate the FECB to Singapore. On 2 August 1939, HMS *Birmingham* sailed for Singapore carrying much of the equipment and records of the FECB. Throughout 1940 and 1941 the workload of the sigint sections of the FECB increased. In order to cater for this additional workload sailors of the Royal Malaysian Navy were retrained as Procedure Y operators and used to man the intercept receivers.

By 1940 the FEDO consisted of eight operational HF/DF stations with a further seven stations under construction, or planned.<sup>12</sup> Intercept stations were located at Stonecutter's and Kranji. These stations were complemented by those constructed and operated by Australia, Canada and New Zealand.

## AUSTRALIA

The Australian contribution to the establishment of the British signals intelligence capability in the Asia-pacific region commenced in 1921. Two unrelated events marked the start of this contribution.

In February 1921 Paymaster Lieutenant T. E. Nave, RAN, was sent to Japan for language training. The potential usefulness of foreign languages had long been recognised by the Australian service: a 1912 Navy Order required all Commanding Officers to report annually ratings who possessed a knowledge of foreign languages.<sup>13</sup> Also as previously mentioned the Australian delegation at the Penang Conference in March 1921 was given a copy of the Japanese Telegraph Code for Naval Vessels. This code was subsequently reproduced and distributed to the ships of the Australian Fleet with instructions that Telegraphists were to be exercised in the code once a week.<sup>14</sup> In addition to this, Telegraphists under instruction at the Signal School at HMAS *Cerberus*, the RAN's main shore establishment at Westernport in Victoria, were also to be trained in the reception of Japanese morse. In an attempt to provide a degree of security to the code and its possession by the RAN, it was originally intended to be described in official communications as the "Asiatic Telegraphic Code". This description was subsequently changed to the even more innocuous description of the "B telegraphic code".

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<sup>11</sup> NAA, MP1185/8, item 1937/2/415 – DSC minute dated 19 March 1941.

<sup>12</sup> NAA, MP1185/8, item 2037/3/29 – Admiralty letter M.01003/40 dated 1 February 1940.

<sup>13</sup> Commonwealth Naval Order 131 of 1912 – Return of Men with Knowledge of Foreign Languages.

<sup>14</sup> NAA, MP1049, item 1997/5/196 – minute by Director Signal Section dated 17 June 1921.

Following representations from the Fleet Commander, and as a consequence of guidance from the Admiralty, the training of RAN Telegraphists in the Japanese code was reduced to an ad hoc arrangement. One result of this decision was that when a qualified rating was required, in October 1924 to assist Nave in cryptographic work during the visit of the Japanese Squadron to Australia, none could be found. Steps had to be quickly taken to train one.

Notwithstanding the Admiralty instructions to limit Procedure Y activities, the Secretary to the Australian Commonwealth Naval Board (ACNB) informed the Australian Naval Representative in London in 1924 that the RAN would be acquiring automatic W/T recorders which would aid in the copying of Japanese traffic. He also pointed out certain inconsistencies with the copy of the Japanese code held and requested advice from the Admiralty. A revised copy of the code was forwarded to Australia, as was a request to forward any intercepted messages to the Admiralty.<sup>15</sup> Prior to being dispatched to London, all intercepted Japanese messages were forwarded to Lieutenant Nave for examination. By this stage Mr. R. A. Ball, a civilian employee of the Department of the Navy, was in Japan for language study; some time later a second naval officer, Paymaster Lieutenant W. E. McLaughlin, was also sent.

In July 1925 Nave was loaned to the RN and posted to HMS *Hawkins* flagship of the China Squadron.<sup>16</sup> He wrote to Australian authorities in September 1925 informing them of his functions, as a code breaker, and of his relocation to HMS *Titania*. By this stage W/T Red Forms, for recording intercepted Japanese messages, had been received from the Admiralty and in November 1925 a group of completed forms were dispatched to the Director of Naval Intelligence in London. These reports crossed correspondence from the Admiralty informing the ACNB that "the results of experience of the China Squadron be awaited before any action is taken to arrange for the co-operation of the Royal Australian Navy".<sup>17</sup> Yet again an attempt by the RAN to commence signals interception resulted in a false start. The Admiralty was informed on the 22 January 1926 that the RAN had ceased the interception of Japanese W/T.

In April 1926 the Admiralty instructed the Commander-in-Chief China Station to provide a report detailing information which may be of assistance to the ACNB in conducting sigint operations. By the second half of 1926 the Naval Board was receiving copies of various instructions and directives concerning signals intelligence operations from the Commander-in-Chief China Station. Following receipt of these memos and a report on Japanese communications compiled by Nave, it was proposed that the RAN recommence Y work concentrating on intercepting messages from the Japanese Mandated Territory. This proposal was given greater weight when the Assistant Chief of Naval Staff proposed using the sloop HMAS *Mallow*, fitted out with radio equipment, to eavesdrop on the Japanese in the Mandated Territory. After further investigations it was decided to use the steam yacht *Franklin* for the task. *Franklin* had once belonged to the RAN but was at this stage in the service of the Administrator of the Mandated Territory of New Guinea. As such, her presence in waters close to the Japanese Mandated Territories would not draw any attention to itself.

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<sup>15</sup> NAA, MP1049, item 1997/5/196 – letter from Australian Naval Representative London dated 12 April 1924.

<sup>16</sup> The implication in James Rusbridger and Eric Nave, *Betrayal at Pearl Harbor: how Churchill lured Roosevelt into World War II* (New York: Summit Books, 1991), pp.30-1, that the ACNB was unaware of Nave's likely employment is unbelievable, given that the Naval Board was already using him in a basic cryptographic capacity.

<sup>17</sup> NAA, MP1049, item 1997/5/196 – Admiralty letter M.03049/25 dated 19 November 1925.

A team of intercept operators and their equipment was embarked in *Franklin* and commenced monitoring operations on 22 April. The operation was concluded on 30 June 1927. Not all of this time had been spent on *Franklin*, as the vessel remained in port during the final stages of the operation. Information obtained during the course of the operation included Japanese W/T procedures, secret call signs and technical details of W/T stations. A total of 97 recordings were made of the Japanese transmissions for later investigation. The report of this operation was forwarded, along with the recordings, in the custody of Nave, to the Director of Naval Intelligence in London in November 1927. After examination, most of the messages were identified as either commercial or practice messages. On the basis of this discovery, the Admiralty advised the Naval Board that it did not consider it worth the RAN attempting any cryptographic work as sufficient information was being obtained from units on the China Station. However, the work of identifying W/T stations and their procedures was considered of value, and the area where the RAN could make a contribution.<sup>18</sup> Whether it was the intention of the Admiralty to stop the development of an independent Australian cryptographic capability is not known, but this was the result of such correspondence. The RAN maintained only a small cadre of Y-trained Telegraphists and no special facilities were constructed during the 1920s. By the Admiralty's own actions, the Royal Navy's future ability to obtain details of Japanese naval traffic in the region had been greatly reduced.

While the Minister for Defence had been briefed on the original proposals of the Penang Conference for the RAN to establish D/F stations in support of the RN. There appears to be no evidence to suggest that he or anybody else in the government of the day were aware of the interception operations being initiated by the RAN and the degree to which the Admiralty was involved. Correspondence on this issue was dispatched on a Navy-to-Navy basis and there was not, at this stage, a significant requirement for expenditure on facilities which would attract government attention.

Though the importance of signals intelligence was recognised by the RAN, no real progress was made throughout the 1920s in establishing a sigint capability. Contradictory guidance from the Admiralty, and lack of facilities, funds and manpower, all contributed to delaying and hindering either any independent or supportive role. This situation began to change as the thirties progressed.

In May 1936 the Naval Board informed the Admiralty of their broad plans for the development of an RAN sigint capability.<sup>19</sup> Included in the letter were the details of arrangements made by the RAN to cover Mandated Territory traffic, utilising the services of an ex-RAN Telegraphist who was still an active member of the RANVR and employed as a civilian radio operator on Nauru Island. This operation continued until 1939 when a new Administrator, who was not a naval reserve officer, was appointed. As a result of this appointment the RAN closed down this listening station.

Construction of the HF/DF stations proposed at the Penang Conference in 1921 was also forecast, though not in the locations originally proposed. No station was built in New Guinea as the area was deemed to be too exposed. A station was erected at Darwin instead. A station initially proposed for Rottneest Island in Western Australia was subsequently located at Jandakot, near Fremantle, and a third station originally intended for Sydney was built at Canberra. As well as the HF/DF stations, an intercept station was to be built for the Navy, in

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<sup>18</sup> NAA, MP1049, item 1997/5/196 – Admiralty letter M.0145/28 dated 21 February 1928.

<sup>19</sup> NAA, MP1185, item 1997/5/305 – letter to Secretary of Admiralty dated 26 May 1936.

Canberra. In 1938 the Shore Wireless Service was established to man the Navy's HF/DF network. These RAN stations formed part of the RN's FEDO.

Coupled with the development of facilities, recruiting and training of operators for the HF/DF stations also commenced in both Australia and New Zealand, though it was not until late 1939 that the prospect of creating an independent cryptanalysis organisation was investigated. Paymaster Commander Nave RN, had returned to Australia for medical reasons, and assisted in the establishment of a small cryptographic organisation known as the Special Intelligence Bureau (SIB) within Navy Office. In April 1940 the Prime Minister, R. G. Menzies, wrote to the Secretary of State for Dominion Affairs seeking guidance<sup>20</sup> although not everybody saw the need to seek British views and approval on the subject of an independent cryptanalysis organisation.<sup>21</sup> The British response, which was dispatched in October 1940, was not supportive "for the present"<sup>22</sup> of the idea of a large-scale Australian-based organisation. It did however, propose a number of actions, such as training of selected personnel in London and continuation of existing co-operative programmes. The main concern appears to have been to prevent a duplication of effort, though this could also be interpreted as an attempt to prevent Australia from conducting an independent analysis of the same information being obtained by Britain.

In January 1941 Captain F. J. Wylie, RN, the outgoing COIS, visited Australia for discussions on intelligence and sigint matters. In the course of these discussions he advised that, with respect to Japanese naval traffic, the FECB receivers at Kranji could not read the traffic of the Combined Fleet by day. Some assistance in this was being provided by Stonecutter's and Esquimalt. Kranji also could not read the day traffic originating in the Mandated Territory. Coverage of these areas by Australia was requested. Of lesser importance, but still requested, was assistance in covering Japanese consular and commercial (HF and MF) traffic, and South China traffic.

The FECB was also interested in Russian naval and general traffic as the reception of these transmissions at Kranji was also poor.<sup>23</sup> This traffic had been previously monitored by Stonecutter's and Auckland but both stations had been re-tasked by the British onto copying the Japanese five-figure code (latter to be designated JN25). The Australians were advised that the Russian material was required mainly for traffic analysis purposes.

In light of these requests, an arrangement was reached with the Australian naval authorities whereby the Royal Navy would intercept Japanese communications covering "Japanese and Asiatic waters; and of the Combined Fleet, 1st Fleet, 2nd Fleet and their associated units in any waters".<sup>24</sup> Australia would provide intelligence, to the best of her abilities, on "Japanese Naval activities in the Mandated Territory, and of the 4th Fleet".<sup>25</sup>

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<sup>20</sup> NAA, A816, item 43/302/18 – letter from R. G. Menzies dated 11 April 1940.

<sup>21</sup> NAA, MP1185, item 1937/2/415 – copy of letter from R. G. Menzies dated 11 April 1940. This carries the annotation "We are not proud of this". The author appears to be Commander R. B. M. Long, the Director of Naval Intelligence, RAN.

<sup>22</sup> NAA, A816, item 43/302/18 – letter from Lord Cranbourne dated 15 October 1940.

<sup>23</sup> NAA, MP1185, item 2021/5/529 – "Y, W/T and D/F", undated.

<sup>24</sup> NAA, MP1185/8, item 2002/2/260 – "W/T Procedure Y - Personnel", minute by DSC dated 26 March 1941.

<sup>25</sup> NAA, MP1185/8, item 2002/2/260 – "W/T Procedure Y – Personnel".

By the outbreak of the war in the Pacific, the RAN had in place a HF/DF and intercept organisation supported by a small cryptographic bureau. This nucleus organisation would prove to be invaluable in the coming years.

## **CANADA**

In 1925 the Admiralty requested that the Canadians build an intercept and direction finding station at Esquimalt on Vancouver Island.<sup>26</sup> The station was controlled by the Admiralty and instructions were issued to it via the Canadian Director of Naval Intelligence. The personnel who manned the station were trained by the Royal Navy at either Stonecutters Island, Hong Kong, or latter in Singapore. The Canadians did not attempt any evaluation of the raw data collected by this station. The intercepts were dispatched to Hong Kong via a mail steamer. As a consequence of this they took too long to arrive to be of any immediate operational value. Although not of operational value, the Canadian material was useful in helping to determine the Japanese W/T organisational structure, and procedures and the structure of the Japanese codes.

In 1939 the intercept station at Esquimalt was given the task of monitoring Japanese commercial traffic relating to shipping movements in North and South America.

A second station was established in nearby Gordon Head in June 1940.

This was to remain the situation until the outbreak of the Pacific War. As a result of an agreement between Britain, Canada and the United States the Canadian stations were to form part of the US west coast network.

## **New Zealand**

The third Pacific Dominion to provide assistance was New Zealand.

In early 1939 the SO(I) Wellington advised the Admiralty that Awarua wireless station was conducting interception operations. DNI (Admiralty) requested details of these operations and was advised they were intercepting commercial transmissions in order to keep track of German ships in the area.<sup>27</sup> By late 1939 the New Zealanders were also forwarding to the Admiralty some intercepts of Japanese traffic. These intercepts could have been obtained by obtaining copies of coded Japanese diplomatic telegrams at the point of origin as the contact for these was Mr W. R. Newall, Acting Deputy Director General Post and Telegraph Department in Wellington.<sup>28</sup>

In early 1940 Warrant Telegraphist Philpot and another New Zealander went to Singapore to establish direct liaison with the FECB. In November 1940 New Zealand forwarded to Singapore a short report on the W/T practices of Japanese merchant ships of the Mitsui Line.<sup>29</sup> This type of information was useful because a change in the communications

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<sup>26</sup> Bryden, p.8.

<sup>27</sup> TNA, HW3/1, Item 80, DNI London message dated 13 February 1939.

<sup>28</sup> TNA, HW14/2, minute DNI to Captain on Staff HMS *Terror* dated 3 November 1939.

<sup>29</sup> NAA, MP1074/7, 12/11/1940 to 26/12/1940: SO(I) Wellington 0458Z/15 Nov 40.

practices or procedures of a ship or group of ships could indicate that the vessel was being used for military purposes or whether information of a military nature was being passed by these ships. The New Zealand organisation also provided the FECB with reports on the noon positions of Japanese merchant ships, known as Special Shipping Reports. The Special Shipping Reports were of particular interest to the FECB as any unusual movements of Japanese merchant ships could provide the first clues as to impending hostilities.

By 1941 the New Zealanders were also working on copying the Japanese five figure operational code, Japanese Consular traffic and on Russian Far East wireless traffic for the FECB. From small beginnings, the New Zealand naval signals intelligence capacity would develop so that it possessed a chain of HF/DF stations located at Awarua, Musick Point (Auckland), Waipapakauri and Suva (Fiji).<sup>30</sup> These stations had direct communications with each other so as to be able to obtain simultaneous bearings. Their work was directed and coordinated by the FECB. Additional radio intercept stations would be established at Awarua, Wairouro, Suva and Nairnville (Wellington). Any transmissions intercepted by these New Zealand stations were sent to Navy Office in Wellington for on forwarding to the RN in Singapore and subsequently the RAN in Melbourne.

To further enhance electronic surveillance coverage of the Pacific Ocean the Admiralty commenced construction of a direction finding station at Suva during late 1940. This station eventually came under the control of the Royal New Zealand Navy. Completion of the HF/DF station at Suva was significantly delayed due a severe hurricane and subsequent bad weather. During the hurricane the main masts of the station were blown down. Heavy rains followed the hurricane and this flooded the rice fields over which the power lines were to be erected. Once the weather cleared, construction was further delayed because the Army on Fiji, which was to erect the power lines, did not see the completion of the HF/DF station as a high priority. Notwithstanding all these setbacks the station finally commenced operations on 13 May 1941. Once operational, the Suva station began keeping a watch on Japanese units in the Mandated Islands and the Combined Fleet. Commencing on 17 May the station was also allocated the duties of covering German Series B and Norddeich Silent Periods, when German U-boats would be transmitting.<sup>31</sup> The Suva site proved a major asset. Given the geographical location of Fiji in relation to the Japanese Mandated Islands it could receive Japanese naval traffic 24 hours a day. The OIC of the Suva HF/DF station proposed that provision be made for the erection of additional interception facilities at Suva and the required personnel be posted to man the station. The increase in capability would allow for the interception of a greater volume of traffic than was then the case.<sup>32</sup>

Like the British and Australian organisations, the New Zealanders were having difficulty finding suitable manpower. This problem to some extent vindicated the British concerns over the Dominions establishing their own cryptographic organisations. But in the case of the direction finding stations it was the British who wished to see them established as part of the Far East Direction Finding Organisation. The manpower requirements for direction finding had to compete against other requirements such as the coast watching organisation being established in the central Pacific Islands by New Zealand. The difficulty in getting suitable manpower also resulted in a distortion of the organisational rank structure at

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<sup>30</sup> *Royal New Zealand Navy and Naval Facilities in New Zealand*, dated 30 April 1944, p.25. Copy held Naval History Section.

<sup>31</sup> NZNA, N Series 1, 030/33/18, *Suva W/T Station: Report No 1*, dated 12 June 1941.

<sup>32</sup> NZNA, N Series 1, 030/33/18, *Additional Y Receiving Position at Suva*, Charge Hand Fiji HF/DF Station minute dated 24 June 1941.

the direction finding station at Suva. This problem was alleviated with the promotion of one of the junior sailors to Petty Officer.<sup>33</sup>

As well as establishing a number of direction finding stations, New Zealand created its own small cryptographic organisation. This was done with the support of the COIS who wished to establish a number of nucleus organisations in as many parts of the Empire as possible. On the surface this might seem to have gone against the idea of not dispersing assets, it did create a pool of trained, or semi-trained, personnel which could be utilized as required. In addition the facilities thus developed ensured that if some were to be lost then there were others available to fill gaps.<sup>34</sup> In establishing their cryptographic organisation the New Zealanders had to start from scratch, even to the extent of identifying and locating basic texts such as *The Solution of Codes and Cyphers* by Louis Mansfield.

Ships of the RNZN were specifically tasked to cruise close to the Japanese Mandated Islands and monitor wireless traffic there.

## **OTHER CONTRIBUTORS**

Whilst this paper has concentrated on the contribution of the major Pacific Dominions and colonies there were other contributors to this effort as well.

Three intercept stations were located in South Africa. These stations were sited at Klaver Camp (Simonstown), Point Natal (Durban) and Roberts Heights (Pretoria).<sup>35</sup> These sites were primarily used to cover the Sth Atlantic but their geographical position allowed them to be used to cover the Indian Ocean as well.

One of the more unusual British stations intercepting Japanese traffic had been established on the island of Mauritius, in October 1940, by a Lieutenant Commander Twining RN (rtd), in the truly English traditional manner of a gentleman adventurer.<sup>36</sup> Commander Twining personally established and funded an intercept station employing local civilians under cover of censorship activities. As can be expected the authorities in London were not amused. However, as the product from this site was so valuable the Y Board sanctioned its continued operation.

The full scale of the Empire's contribution can be judged by the list of stations which made up the FEDO in October 1941. These stations were:

Stonecutters Is (Hong Kong)

Kranji (Singapore)

Kuching (Sarawak)

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<sup>33</sup> NZNA, N Series 1, letter to Resident Naval Officer, Suva dated 13 August 1941.

<sup>34</sup> TNA, ADM223/496, NA030/68/2, *Additional Y Receiving Position at Suva*, Secretary NZNB letter dated 15 October 1941.

<sup>35</sup> TNA, HW14/3.

<sup>36</sup> Commander Twining was a member of the Mauritius Colonial Service and on the outbreak of war became the Island's Chief Censor and Information Officer. It was in his role as censor that he established the monitoring service with a view to monitoring French colonial traffic.

HMAS COONAWARRA (Darwin)

HMAS HARMAN (Canberra)

Jandakot (Perth)

Direction Island (Indian Ocean)

Penang (Malaya)

Gombak (Malaya)

Esquimalt (Canada)

Auckland

Waipapakauri (New Zealand)

Awarua (New Zealand)

Durban (Sth Africa)

Aden

Mauritius

Bombay

Colombo

Suva (Fiji)

To this list could be added Trincomalee which was nearing completion.

As well as providing the facilities or land for these facilities there was also an unknown number of colonial personnel operating and supporting these stations.

### **Conclusion**

The establishment of the Imperial signals intelligence network in the Far East highlighted the benefits and pitfalls of Imperial association. The Royal Navy benefited from the resources being applied to this organisation by the Dominion navies. These navies provided facilities, trained personnel and raw information for use by the RN. The facilities and personnel provided by the Dominions absorbed scarce funds which they may have preferred to utilise to satisfy other requirements. The geographical dispersion of the Dominion and colonial facilities provided the RN with a degree of coverage that it may not have otherwise had.

When in December 1941, the Japanese finally struck, a proportion of the Imperial, and for that matter American, signals intelligence infrastructure which existed in the Asia-Pacific region was destroyed. The British lost facilities at Hong Kong, Kuching, Malaya and

Singapore. However, those in Australia, New Zealand, Canada, Fiji, India and on the periphery of the Indian Ocean survived. The wide dispersal of Imperial possessions across the Pacific and Indian Ocean areas provided Britain with a strategic advantage which Japan could never match or overcome. However this strategic advantage could only be realised with the co-operation and support of the constituent members of the Empire.

The downside of this Imperial co-operation for the Dominions was that often their own requirements became secondary considerations in the overall British scheme. The Admiralty, and British authorities generally, were not enthused at the prospect of Dominions developing independent analysis capabilities and thus drawing divergent conclusions from the collected intelligence. Their preference was to retain such capabilities solely under their direct control.

Notwithstanding these shortcomings, the Imperial connection was to prove beneficial to all parties during the course of the war.