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THE ORIGINS OF SIGNALS INTELLIGENCE IN NEW ZEALAND

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Abstract

Signals intelligence operations first occurred in New Zealand in the early days of the First World War. However, New Zealand's important signals intelligence relations date from the late 1940s, arising directly from the rapid integration of Commonwealth and United States operations during World War Two. Historical ties, which made it inevitable that New Zealand's primary intelligence links would be with Britain (and thus Britain's primary ally, the United States), were reinforced by the necessity of working with these countries in the 1942-45 Pacific War. In the early 1940s at least seven New Zealand signals intelligence stations were constructed and operated as part of the British-American intelligence system. New Zealand operations were coordinated from an intelligence centre in Wellington. These wartime relationships, which were built around systems for British-American cooperation, were cemented into a comprehensive and enduring post-war signals intelligence alliance in the growing cold war of the late 1940s. In the late 1940s a post-war signals intelligence station was established at Waiouru where it operated for the next 30 years. During the 1940s New Zealand signals intelligence had gone from being a link in a colonial chain, to being a subunit in a British-American system and to being a secondary partner in the United States-British led alliance. The decisions made in the late 1940s have remained secret and yet have largely determined New Zealand's signals intelligence relationships ever since. Other New Zealand external intelligence organisations date from this time too but they did not become part of tight five nation UKUSA-type arrangements. The five nation configuration and the dominance of the large partners are the defining features of the signals intelligence alliance. The operations and alliance links established in the period covered by this paper led later to the formation of the Government Communications Security Bureau in 1977, which runs signals intelligence interception stations at Tangimoana in the Manawatu and Waihopai in Marlborough. The history from the 1960s until the present is the subject of ongoing research by the writer.

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Introduction

Intelligence gathering performs a similar and complementary function to military force: both are used by countries to advance their interests. The type of intelligence called signals intelligence is probably the largest, most secret and most expensive source of secret intelligence in the world today. It has implications for power relations between countries in every part of the globe.

'Signals intelligence' refers to intelligence collected by eavesdropping on the communications (radio, satellite etc) of other countries - 'communications intelligence' - and on non-communication types of signals such as another country's radar ('electronic intelligence'). It generally refers to external intelligence and does not include spying on people within a country by their own government.

The generally accepted definition of communications intelligence, which is the type of signals intelligence this paper is concerned with, is 'technical and intelligence information derived from foreign communications by someone other than the intended recipient. It does not include foreign press, propaganda or public broadcasts'.

Signals intelligence was collected during the First World War, but was much more significant during the Second World War when radio communications had become crucial to the coordination and operations of war. The intelligence relationships developed during the war became the basis of a powerful signals intelligence alliance constructed by the United States and Britain in the late 1940s and formalised in the 'UKUSA' agreement. This agreement has shaped signals intelligence relations within the alliance up until the present.

The histories of United States and British signals intelligence during the Second World War have gradually been researched and written. Similarly a number of authoritative books have described the modern intelligence structures and procedures in these countries. However for New Zealand, which has a parallel intelligence history (albeit on a much smaller scale), these activities, past and present, are almost entirely undocumented.

This paper gives a short history of the formative years of New Zealand signals intelligence and, in passing, of other areas of external intelligence. It documents the Second World War network of signals intelligence stations and the types of operations they were involved in, and the intelligence coordination centre in Wellington. It also compiles the available information on the growth of the post-war intelligence structures up until 1955.

It shows how New Zealand's post-war external intelligence organisations were shaped by the larger British/United States intelligence system, growing out of the relationships established by necessity during the Second World War. For New Zealand, a small nation in an intelligence alliance of larger powers, the implications of membership of the alliance have probably had far more significance for government policy than did the actual intelligence collected and exchanged.

Nearly all official archives relating to these activities have never been made public or were destroyed after the war. Even fifty years later the Government refuses to release some information about the period. It has only been possible to investigate this history because some of the people working in intelligence during the war are still alive and have been prepared to tell their stories.

Second World War intelligence

New Zealand's WWII intelligence organisation was mostly constructed very rapidly in 1941/42 when the Japanese military was threatening to enter the war and then, after attacking Pearl Harbor in December 1941, expanding at an alarming rate out into the Pacific. It was built on the foundations of a small district intelligence office established in New Zealand by the British Royal Navy after the First World War as one link in a chain of 'stations' across the empire¹.

The intelligence of interest in the New Zealand Station - the section of the Pacific Ocean allocated to New Zealand by the British Government - was mainly naval. The main aim was to protect shipping from enemy attack: detecting and plotting the positions of Japanese and German submarines and ships, keeping track of New Zealand's own ships so they could be diverted away from possible attack and building up an overall picture of the positions, capabilities and, if possible, intentions of the enemy units.

Early in the war a network of coastwatching stations had been established around the New Zealand coast (62 stations by March 1940) and on literally dozens of inhabited and uninhabited islands in the South Pacific. Staffed largely by civilians, these stations kept a lonely 24 hour watch, reporting by radio or telephone to Naval Intelligence any sightings of ships or planes². In addition there were Port War Signal Stations watching the entrance to each port, coastal gun batteries and, by 1943, a network of radar stations (which stands for 'radio direction and ranging') collecting similar information to the coastwatchers.

A naval 'examination service' in each port boarded visiting ships and, together with a network of naval intelligence 'reporting officers' (made up of local consuls high commissioners, etc) on Pacific Islands helped keep a record of the movements of all commercial shipping in the region. If a report of a suspected enemy vessel came in from, say, a coastwatch station, an air force Hudson reconnaissance aircraft could be sent to do a 'square search' of an area of ocean, the Merchant Shipping Office could reroute commercial shipping and Australian and American authorities operating in adjacent regions could be alerted.

1 The district intelligence office was run by two Royal Navy officers. In 1927 the New Zealand Government agreed to pay for the running of the office provided that Britain still provided the two officers.

2 D.O.W. Hall, *Coastwatchers*, War History Branch, Dept of Internal Affairs, Wellington, 1951.

This intelligence system, while mostly staffed by New Zealanders and reporting to the New Zealand Government, was part of a British system. New Zealand's Director of Naval Intelligence, Lieutenant Commander Beasley, like most other senior naval staff in New Zealand at that time, was a British officer. His job was to oversee the New Zealand link in the world-wide British intelligence network and expand it as the Pacific war got closer.

The standard British intelligence procedures were tailored to fit the local New Zealand requirements. Still, all the elements of the intelligence New Zealand, system, secret and not secret, plus all the procedures, terminology and regulations used there were the same as the rest of the British network.

All the details of the intelligence system above³ are on the public record: histories have been written about them, the staff were given awards at the end of the war and the records have been preserved in the National Archives. But the most secret parts of the Second World War New Zealand intelligence system have never been written about, in particular 'signals intelligence'⁴.

This 'Y' intelligence, as it was called, comprised a network of top secret radio stations 'intercepting enemy messages and teams of codebreakers and analysts in New Zealand, Australia and elsewhere trying to make sense of the intelligence gathered. Most (but not all) of this intelligence work concerned naval targets.

The special signals intelligence structures, procedures and intelligence sharing arrangements established during the Second World War have been the basis for signals intelligence work in these countries ever since.

The first signals intelligence operations in New Zealand began on the outbreak of the First World War in 1914. The First World War started on August 3, 1914, and two days later the first intercepted German message arrived in Wellington from a New Zealand radio station (and was delivered to the Governor General by a local intelligence officer). This implies that some organisation had been put in place before the war which had planned in advance which frequencies and call signs should be targeted for intelligence. There are records from October 1914 of German radio messages being intercepted by New Zealand wireless stations in Suva and Wellington and also probably by the Post and

3 And other areas of intelligence work, such as: monitoring of foreign news and propaganda radio broadcasts from which information was gleaned (e.g. on enemy operations and claimed successes) and in which messages might be sent from prisoners of war to their families. This monitoring, mainly of Japanese and German English-language stations, was done for the Navy by the National Broadcasting Service and amateur radio operators, (eg A. Cushen, 'Propaganda war raged in the South Pacific', *Radio Listeners Guide*, 2nd edition, Inveccargill, June 1990); and sent to H. Philpott, the Navy's Staff Officer, for 'Y' (signals intelligence). Another important intelligence source was captured documents. For example, allied code breakers were able to break the major Japanese naval code 'JN25', allowing them to read many intercepted Japanese communications, after two New Zealand corvettes rammed a Japanese submarine off Guadalcanal and forced it to beach on an outlying reef in 1943. It was found to be carrying a large quantity of Japanese codebooks (David Kahn, *The Codebreakers*, New York, MacMillan, 1967, p590).

4 For example, the volume of the *Official History of New Zealand in the Second World War* about the Royal New Zealand Navy, which was responsible for navy signals intelligence, contains no reference at all to this work.

Telegraph station at Awanui in the far north of New Zealand - and sent to an Australia centre (which began operating that month) for analysis⁵.

There are no records of New Zealand signals intelligence activities between the wars, but then signals intelligence came to play a huge role during the Second World War. In 1942 there were at least seven New Zealand signals intelligence stations⁶⁷:

Awarua, Southland
Musick Point, Auckland
Waipapakauri, Northland
Tamavua, Fiji
Rapaura, Marlborough
Wellington Radio
Nairnville Park/Johnsonville, Wellington

The Seven Second World War signals intelligence stations

The first two WWII signals intelligence units were established in existing government radio stations, at Awarua in the south of the South Island and at Musick Point in Auckland in the north. Both stations had been fitted with new radio direction-finding equipment in late 1939, just before the war, for civil aviation purposes.⁸

After the war began in 1939 some of the Post and Telegraph staff at these stations, upon receiving special security clearances, began top secret signals intelligence work. As was the case in 1914, some preparation must have occurred pre-1939 (at least at Awarua) for them to be capable of starting then. At this stage of the war they targeted Germany, while later the focus shifted to Japan.

The Y-operators' work like that of their modern equivalents at the Government Communications Security Bureau's Tangimoana station, was aimed at two kinds of intelligence collection: intercepting and transcribing enemy radio morse code messages, most of this work going to a joint United States/Australia analysis centre in Australia; and using radio direction-finding equipment to determine the direction from which signals from a particular submarine or army unit of interest had come, the results of which were sent to the allied direction-finding network.

5 *Blue Water Rationale I.C.* McGibbon, Government Printer, Wellington, 1981, p26, Footnote 44: 'Coded wireless signals intercepted by radio stations at Suva and Wellington shortly after 8pm on 4 October (1914) indicated that the Scharnhorst was somewhere between the Marquesas Islands and Easter Island. Their significance was not, however, known in Wellington until the receipt, on 6 October, of a decoded version from Australia. 'Naval' (Intelligence Officer?), Wellington, to Naval Board Melbourne, 5 Oct 1914 and reply 6 Oct, Governor's Records, G46/1, National Archives, Wellington.' The Awanui station probably also did this work (interview). 'It was located very near the later site of the WWII interception station at Waipapakauri. Also interview source.

6 All the information on WWII signals intelligence operations, unless otherwise stated, is based on interviews.

7 Another rumoured signals intelligence activity was an undersea cable in Queen Charlotte Sound -with hydrophones for detecting submarines. It was said to be controlled from an underground bunker in Curious Cove.

8 The stations were used by the Post and Telegraph Department to take direction bearings on radio signals from the first commercial Auckland-to-Sydney passenger aircraft as they crossed the Tasman Sea, allowing estimates of the aircraft's positions to be radioed to the pilots to assist their navigation.

The Awarua station was involved in both kinds of intelligence collection⁹, whereas Musick Point and some of the other stations were probably involved in direction finding operations only. They were provided with a frequency and the enemy unit's callsign, from an intelligence coordination centre and instructed to search for those transmissions to get a direction bearing.

One of the people involved during the early years of the war described the work as follows:

'...The dark side of the world picks up radio signals better, and so when darkness was across this side of the world we'd get the signals from German U-boats in the Atlantic. We'd pick them up from Awarua down south and Musick Point and we would immediately signal those to Intelligence Headquarters in London and they would [presumably instruct other stations to] take a cross bearing and work out where the submarine was'.

Direction finding bearings from New Zealand and other parts of the worldwide direction finding-network were sent by signal to the War Registry in London, and from there were taken by hand to the underground Operational Intelligence Centre¹⁰. Intelligence staff at the Awarua station, sending direction-finding intelligence to London in this way, believed that together with a Commonwealth station in Bombay they helped track the German warship Admiral Graf Spee to its defeat in the South Atlantic in late 1939.

As the Pacific war intensified a decision was made to setup up more Y- stations, spaced as far apart as possible to allow the direction-finding-network to triangulate on target transmitters. It was decided to have one in Fiji and one in Northland in New Zealand. A small security-cleared team within the Post and Telegraph Department¹¹ was instructed to choose sites and construct the stations as quickly as possible.

The site for the Northland station was found as far north as useable roads were available at the time, on mud flats beside the mouth of the Awanui River a few miles east of Waipapakauri. At the same time Post and Telegraph staff in Fiji selected a site in scrubland at Tamavua in the hills a few miles north of Suva, separate from the New Zealand Army's J section radio station nearby. These stations were ready in early 1942.

All four Y-stations were fitted with Marconi radio receiving equipment, shipped from Britain for the purpose, including the then highly sophisticated Marconi-Adcock direction-finder with which the directions of target radio transmitters were calculated. Unlike the ship-based direction-finders at that time - which involved manually rotating, a set of aerials poking up through the cabin roof to judge signal direction - the Adcock

9 Awarua's staff is said to have comprised the officer in charge and four separate watches of 18 intercept operators.

10 D. McLauchlan, *Room 39*, Weidenfeld and Nicolson, London, 1968, p57.

11 Establishment, maintenance and operation of the WWII signals intelligence stations was largely done by civilian Post and Telegraph Department staff, since these were the most available people with the necessary skills. The technical side was overseen by Tom Clarkson and George Searle of Post and Telegraph and the operations side by Lieut Comm Philpott who was in charge of all Y work at intelligence headquarters in Wellington.

system used a goniometer, the same technique as is used today at the Tangimoana station¹².

Besides all being linked directly (by telephone line) to intelligence headquarters in Wellington, special communications arrangements were made to link the Suva and New Zealand stations to allow them to work together locating enemy units. It was arranged for the undersea cable between New Zealand and Suva to be connected to the direction finding station at Musick Point, allowing second to second collaboration in getting a fix on an intercepted transmission.

Working together with an identical Adcock direction-finder at the Australian naval radio station Harman near Canberra, the four New Zealand direction-finding units took part in the operational duties of a commonwealth organisation called the Far Eastern Direction-finding Organisation (FEDO)¹³. However FEDO would have disappeared when the United States came into the war and all the structures were Americanised.

By 1942 all the navy Y-stations were targetted predominantly on the Japanese naval communications. At each of the four stations banks of intercept operators, who were trained in the Japanese katakana 'alphabet', worked in shifts around the clock intercepting Japanese morse code transmissions. One of the operators at the Suva station in 1942 described how he worked in the direction-finding unit: 'Japanese transmissions were intercepted and a detailed plotting system of message locations and sources was built up. An intelligence unit... used the data received'.

According to the operator, the work included traffic analysis, whereby the 'frequency of a 'rush of messages'' was part of the plotting' so that the intelligence unit could, for example, 'attempt to identify a build up of forces in preparation for an attack. Two American born Japanese men, in US uniform were part of the system... All data collected and assessed at Tamavua would go direct to Wellington, a major relaying centre.'

A typical signal concerning direction-finding operations, from the New Zealand Navy Board to Australia and Colombo in June 1942, read:

'D/F bearings from AUCKLAND [Musick Point], WAIPAPAKAURI and AWARUA showed Japanese units Edward Orange RE KU KE TA and R1 to south west of Sydney between 0700 and 1400 G.M.T. 2nd. Presume you are obtaining these'¹⁴.

12 The Adcock direction finder at the Australian naval radio station Harman in Australia was installed at the same time as the New Zealand four and, at least until recently, was still at the station. It is made up of four 10 metre-high aeriels spaced about 6 metres apart in the north-south and east-west directions. A goniometer connected to the four aeriels is rotated and, according to where the maximum signal strength is detected, the direction from which the signal is coming can be estimated.

13 NZ Naval Board message to British Admiralty, 7/2/42; Navy Department Series 1, 13/28/35 'Personnel for RDF telegraphist ratings (Special Branch) NZNF, Scheme R, 5pts, 1940-47', National Archives, Wellington. FEDO was probably located in Singapore, prior to the Japanese defeat of the island. The same message advised Admiralty that 4 men and a chargehand 'who is of exceptional ability' would be allocated for the Fiji direction-finding station.

14 Navy message NZNB to ACNB, 5/6/42. Navy Department Series 2, 030/68/3 'War with Japan - Germany and Italy, exchange of intelligence', Part 3, Mar 42-Aug 42', National Archives, Wellington.

The message, marked 'SECRET' and 'Priority IMPORTANT', illustrates a system of classifying individual Japanese naval units which allowed them to be identified and traced over time.

This particular message refers to Japanese submarines which two days earlier had dispatched a mini-sub attack against ships in Sydney Harbour. New Zealand stations had intercepted transmissions from these submarines on 26 and 30 May, before the attack, and sent warnings to the Australian naval authorities. The warnings were apparently disregarded.¹⁵

The Awarua station was established on December 18 1914, and the Musick Point station¹⁶ in 1939, when both stations were equipped with radio direction-finding equipment for civil aviation purposes (ie assisting navigation by civilian passenger aircraft). While these two were high-frequency direction-finding (HFDF) stations, there were also several medium-frequency direction-finding (MFDF) stations established at the same time for the same purpose. There is evidence that at least some of these, including one at the mouth of the Clarence River near Kaikoura, were also used for signals intelligence, mainly using Women's Royal New Zealand Naval Service staff¹⁷. However this was probably short-lived, at the height of concern about Japanese expansion in 1942.

There was a fifth interception operation run by the navy based at Wellington Radio, additional to its communications functions. This acted as a major facility throughout the war and, briefly during 1942, included an outlier - a small wooden hut on Mt Crawford in Wellington - when Wellington Radio got too crowded.

The sixth WWII signals intelligence unit was the Naval Wireless Station, Rapaura. Probably the most secret of the five naval stations, the site was selected in person by the head of signals intelligence staff from Wellington in August 1942 accompanied by Lieut. Merlin Minshall. Minshall, on loan to New Zealand from the Royal Navy naval intelligence organisation in London for 1942/3, personally established the station which operated until May 1944¹⁸.

The station was situated at a remote farmhouse, behind barbed wire fences, at the end of a dusty Wratts Road by the Wairau River - a few miles from Blenheim in the north of the South island. Its long wire aerial was disguised by being strung between two 100 foot high trees and its staff lived and worked in the farmhouse.

15 *Australia under Siege, Japanese raiders in 1942*, Steve Carruthers, Sydney, 1982, p133.

16 The station was named after the United States pilot, Captam Musick, in honour of his flight across the Pacific from the United States to Auckland.

17 See reference to Clarence Springs (it should have said Clarence River mouth) in the letter quoted in the following footnote.

18 Details of the station are contained in the WRNZNS history: Grant Howard, *Happy in the Service*, produced by Word Publishers for the Ex-Wren Association, Auckland, 1985. Also a letter from the then director of the GCSB, Colin Hanson, to one of the Rapaura staff says: 'Specifically I agreed that you, and your fellow WRNZNS, could publish details of your call-sign monitoring, radio finger printing, and classifying duties at the Naval Wireless Station at Rapaura, Blenheim. I also agreed that you could discuss the relationship between the Rapaura Station and the stations at Awarua, Waipapakauri and Clarence Springs, plus the coordination and analytical functions carries out in Wellington. All this of course related to your target communications - Japanese naval.' (Letter to J.H.Murdoch, 3/11/82.)

Staffed by eight women belonging to the Women's Royal New Zealand Naval Service (Wrens), the station had three functions: call-sign monitoring, radio finger-printing and classifying of the results: Four of the staff worked as operators, four as classifiers.

There are two types of radio finger-printing. The first involves studying the distinctive characteristics of particular target radio transmitters, for example allowing the same ship to be identified even when it uses a different morse code operator, call sign and different frequencies. The second type involves studying the distinctive characteristics of particular morse code operators to identify and trace the locations of those operators, for example showing that a particular operator has changed ships which may indicate damage to the previous ship. Each operator has a distinctive touch, or 'fist': some are slower, some jerky, they hold down the key or pause between dots and dashes for different lengths of time and so on.

The unit at Rapaura was doing the first kind of radio finger-printing, not the second.

The station used sophisticated equipment provided by the British signals intelligence organisation. The operators sat with headphones picking up and recording the call-signs used by Japanese morse code operators to identify themselves. However, since the Japanese changed their call-signs frequently, the operators were also trained in the radio finger-printing. This allowed transmissions made at different times to be linked to the same submarine or army unit.

This information was used to build a picture (together with the Y-station direction-finding results) of the positions and movements of each Japanese and German unit around the Pacific. Of these, the most urgent intelligence targets were the large Japanese I-class submarines which attacked merchant shipping in the South Pacific during 1942 and 1943.

This 'radio finger-printing' was devised by Minshall by his own account (he called it Z-intelligence) and he suggested its use to the New Zealand intelligence authorities after he arrived in New Zealand in 1942¹⁹.

The dots and dashes of the Japanese morse messages were displayed on an oscilloscope screen connected to the special radio receiver and then photographed with camera equipment. Careful measurement of the marks on the developed film by the four classifiers allowed a 'finger-print' of the particular radio transmitter to be identified.

The conclusions from their preliminary classification of the 'REB' (radio finger-printing²⁰) intelligence were immediately sent by 'scrambler' telephone to intelligence headquarters in Wellington. But the actual photographs would have had to be delivered by courier. There was an analytical section for radio finger-printing intelligence within the Wellington intelligence headquarters which would have done further analysis on the Rapaura findings.

19 Merlin Minshall, *Guile Edged*, Bachman and Turner, London, 1975.

20 'REB' was a disguised version of the initials 'RFP': Radio Finger-Printing.

Army signals intelligence operations

All of the signals intelligence operations discussed above, and the relevant sections of the Wellington headquarters were predominantly the *Navy Y* operations. At the same time the Army had its own signals intelligence operations targeted on Japanese operations affecting army personnel fighting in the Pacific.

The Special Section of Army Signals was a signals intelligence unit under the command of Captain Ken McKenzie and based at the Army's large signals centre at Nairnville Park, in Ngaio, Wellington. The unit intercepted Japanese army and navy messages from Japanese occupied areas in the Pacific. Later when McKenzie served in the Indonesia, he visited a recently captured Japanese radio station and discovered by looking at the radio crystal frequencies that it was one of the stations which the Nairnville Park unit had been intercepting.

The army signals staff worked first in a railway hut at Nairnville Park and then in isolated huts set among blackberry and gorse on a hilltop between Johnsonville and Newlands. At one stage the two separate stations were both being used while the volume of work required it. The unit would have had about 40 intercept operators, including some from the Women's Army Auxillary Corps (WAAC). The first WAACs began work in the Special Section in October 1943.

The operators intercepted Japanese morse code transmissions, copied down the messages and sent them to American intelligence authorities for decoding and translation before they were passed to Pearl Harbor for action²¹. The staff called the unit 'OGPU', after the Soviet pre-war internal security organisation, because of its extreme secrecy.

The radio receivers were staffed 24 hours a day, seven days a week, in four 8-hour shifts. The busiest periods were during the night shifts. Intercepted Japanese weather messages were noted as being highly valued by the army, navy and air force²².

In addition, the army had one or two radio intercept units operating in the Pacific during the period of New Zealand army involvement in the Pacific War²³ (there were no similar units in Europe or North Africa - when signals intelligence support was required in these areas they would have borrowed British units for the particular operations).

The Pacific signals intelligence units involved army radio personnel setting up temporary radio intercept stations in the islands for intelligence work in the course of army operations. Like the Nairnville unit, they were also referred to informally as OGPU units.

21 Denys Bevan, *United States Forces in NewZealand 1942-1945*, Kakanui, 1992, p148.

22 Iris Latham, *The WAAC Story*, Wellington, 1986, pp 107-109.

23 Interview source.

The Royal New Zealand Air Force did not have its own signals intelligence operations²⁴. There was no requirement for them in the United States coordinated intelligence system.

The Wellington intelligence centre

The New Zealand Combined Operational Intelligence Centre (COIC) was established in October 1941 and soon after moved into the newly constructed defence headquarters in Wellington's Stout Street Departmental Building (now Defence House). The intelligence organisation was situated on the second floor in the rooms surrounding the Central War Room, a large room with charts around the walls to which the Chiefs of Staff came each morning at 10 o'clock to be briefed on the latest developments in the war²⁵.

The Central War Room was located in the front north-west corner of the building and contained four navy officers acting as watchkeepers: receiving all the latest reports of attacks or sightings by coastwatchers and attempting to collate them with other sources into an accurate picture. Owing to the building having been hastily completed with nothing more than soft, unpainted Pinex board on the walls, workers in this and the other offices had to work at night sharing their accommodation with large numbers of rats which presumably came from the nearby wharves.

Walking along the front of the building, the next room after the Central War Room was the Merchant Shipping Office containing the Merchant Shipping Controller. Here four Royal New Zealand Navy officers and four Women's Royal New Zealand Naval Service staff plotted the movements of the 100 or more merchant ships which were present in New Zealand's area of the Pacific at any one time.

By 1943, when the United States military had huge military forces in and passing through New Zealand, the Merchant Shipping Office was keeping track of up to 380 ship, at sea or in port at any one time. A US Navy liaison officer was based in the Office, and next door there was a Coding Room staffed mainly by US Navy technicians, which was off limits to other staff. This was connected to the US Naval Attache's Communications Office which kept contact with US ships and which was also located in the defence headquarters building²⁶.

Next was the office of the Staff Officer (Operations), a British officer on loan to New Zealand, whose job it was to make decisions concerning rerouting of any shipping in danger of attack when enemy submarines and raiders had been detected. On the other

24 The RNZAF did have other kinds of intelligence staff attached to its squadrons operating in Fiji, the Solomons and elsewhere in the Pacific.

25 The description of the different sections of COIC is based on unattributable interviews combined with information from various letters, reports and minutes concerning the W WII naval intelligence organisation, including a 19/5/42 list of all people authorised to enter the COIC and Central War Room: Navy Department Series 2 08/1/18, 'Intelligence centres - combined ,operations intelligence centre', Part 1, March 1938-October 1944, National Archives, Wellington.

26 Denys Bevan, *United States Forces in New Zealand 1942 -1945*, Rakanui, 1992, pp 158-159.

side of the S.O.(O)'s office, giving him the other half of the information he needed to make these decisions, was the Direction-Finding (D/F) Plotting Room.

The D/F Plotting Room was staffed by four Women's Royal New Zealand Naval Service staff who worked in 8-hour shifts around the clock putting all the data from the New Zealand D/F stations, from bi-weekly Australian D/F reports and from other allied stations in the D/F network onto a large chart of the Pacific area. Using the D/F and REB results from the different stations, they plotted the positions of all Japanese and German submarines and warships, Axis merchant ships and enemy raiders which had been detected.

Walking further back into the building, the office next to the Central War Room belonged to the Director of Naval Intelligence and COIC Director, Lieutenant Commander Beasley, Royal Navy. Beasley helped establish the COIC with the same name, structures and procedures as all the other regional 'operational intelligence centres' in the British world-wide network.

Next to Beasley was the head New Zealand naval intelligence officer, Lieutenant Wally Brackenridge. In January 1943 he was sent to Noumea to act as New Zealand liaison officer on the staff of the United States Commander South Pacific (COMSOPAC), as part of the increasingly close intelligence cooperation with the American military as the war went on²⁷.

The next office was known simply as 'Room 236': the naval intelligence room. The major concern of the New Zealand COIC was protection of shipping and, to this end, in June 1943 the officers in Room 236 began to produce a Daily Summary of Submarine Intelligence. This summary took the form of a chart giving the estimated positions of all enemy submarines in the South Pacific area, drawing together information from all sections of the intelligence headquarters.

A Navy Minute from May 1943 explains:

'Most Japanese transmissions take place at night, and if we can arrange rapid D/F and REB information together with all sightings, attacks etc to be supplied by the Central War Room, [there is] no reason why we should not be able to produce an 0600 submarine chart by 1200 daily.'²⁸

This job was done by Lieutenants Cheyne and Jaynes, who after the war became Director and Deputy Director of Naval Intelligence respectively.

Another Navy Memorandum from the time summarised the sources of 'enemy submarine information' :

²⁷ S.D.Waters, *Official History of New Zealand in the Second World War 1939-45: The Royal New Zealand Navy*, Department of Internal Affairs, Wellington, 1956, p442.

²⁸ Lieut Comm Beasley, Navy Minute, 22 May 1943; Navy Department Series 2 08/1/18, 'Intelligence centres - combined operations intelligence centre', Part 1, March 1938-October 1944, National Archives, Wellington.

- (a) D/F from New Zealand, Australian and United States stations
- (b) Admiralty AF messages from Australia (warnings to ships at sea).
- (c) War Warning messages from United States sources.
- (d) Reports of sightings and attacks by ships at sea and aircraft.
- (e) Special intelligence from S.O.(Y)'s department which is generally of forecasted movements.²⁹

The Staff Officer Y's (So.O.(Y)) department, always referred to obliquely (if mentioned at all), covered signals intelligence. The Y Intelligence Organisation was headed by Lieutenant H. Philpott and was also located on the second floor. As it turned out, New Zealand signals intelligence work was run from this building continuously from this time until 1982, when the GCSB moved to its current location in the Freyberg Building.

Philpott, widely regarded as being a difficult person to work with, oversaw naval signals intelligence - and particularly the technical aspects of naval signals intelligence – in New Zealand (Ken McKenzie was responsible for Army signals intelligence). He controlled the five naval New Zealand-run stations (no-one could enter them without a pass signed personally by him³⁰) and all naval signals intelligence arriving from other countries. He controlled who saw overseas-sourced signals intelligence and ensured that the secrecy, and indeed even knowledge of the existence of this type of intelligence, was protected.

All intelligence collected at New Zealand naval stations was received by Philpott's department and then sent via the signals department located on the roof of the building into the British and American intelligence systems. In addition, D/F and radio finger-printing information (from New Zealand and overseas) went to the Plotting Room, messages in code probably went straight to the allied code-breaking organisation, the Central Bureau, in Brisbane, Australia, and some information was passed on to a small special unit near Philpott's office.

This unit was headed by James Campbell who had been taken into the Navy during the war from his position as Professor of Mathematics at Wellington's Victoria University. He worked with other talented mathematicians, including Dr Carter and L. King. The reason for assembling a high-powered group of mathematicians was that at least part of the work of this unit was cryptanalysis (code-breaking).

Unfortunately there is no available information about the codes upon which they were working: the people involved have died with the secrets. It is probable that some lower grade Japanese codes were assigned to the New Zealand cryptanalysis unit (eg weather report codes); and they may also have been given particular aspects of more important and difficult codes which were the subject of collaboration between allied cryptanalysis units.

²⁹ Commander G.F. Hannay, SO(O), Memorandum, 4/6/43; Navy Department Series 2 08/1/18, 'Intelligence centres - combined operations intelligence centre', Part 1, March 1938-October 1944, National Archives, Wellington.

³⁰ Grant Howard, *Happy in the Service*, Word Publishers, 1985, p49.

The cooperation in cryptanalysis also involved contributing mathematicians as code-breakers for the allied effort. A number of New Zealanders from Campbell's unit were posted for periods to the large United States navy-run cryptanalysis organisation in Australia (discussed below).

The unit is said to have also done some traffic analysis work. Traffic analysis remains a major part of modern signals intelligence work and is based on the fact that, even when intercepted messages are in code, call signs can be identified and deductions can be made from the volume and pattern of the radio traffic.

If it is correct that they did this work, Campbell and his assistants would have been monitoring patterns of naval radio traffic and from this, for example, trying to make predictions about future Japanese movements and operations. If a particular pattern of transmissions usually preceded or followed a certain kind of attack, then hearing this again might indicate the same type of event.

There are National Archive records suggesting that some of the intelligence arriving at Philpott's section in 1942 was the oddly named ZYMOTIC intelligence³¹. Like the much publicised 'ULTRA' intelligence, this intelligence was derived from breaking the high level codes used by the Germans and Japanese to protect their messages. A MOST SECRET memo from 1942 explains the difference: 'Messages containing information from Special Intelligence from the Admiralty are prefixed 'Ultra' Messages containing similar information from other authorities are prefixed 'Zymotic' and are sent by the most secret cypher available'³². Later in the war the term ULTRA was standardised through the whole US-UK intelligence system.

Typical work of Philpott's section is seen in a radio message received by Philpott on the 26th of September 1944 from the British Commander-in-Chief Eastern Fleet (C in C E.F.). The message reads:

'A shore station fixed in the PENANG AREA has been heard handling German naval traffic as follows:- Time GMT; 0000 to 1000 on 31700 and 7365 kilocycles/second, 1000 to 1630 on 11470 and 4265 kilocycles/second

Control used call sign 6K8 but other stations are also active. Traffic consists of five letter code and naval engins bearing serial number X 001 to 100.

Frequencies in paragraph 1 have been heard being used by U-boats east of about 88 east to 6K8, probably when direct touch with GERMANY cannot be used. Normal U-boat procedure is used...'³³

31 A zymotic disease is defined as 'epidemic, endemic contagious, infectious, or sporadic disease regarded as caused by multiplication of germs introduced from outside'.

32 Memorandum from the Office of the Commander-in-Chief Eastern Forces, E.F.4964/17, 16 July 1942; Navy Department Series 2 08/1/18, 'Intelligence centres - combined operations intelligence centre', Part I, March 1938-October 1944, National Archives, Wellington.

33 Naval message, 26/9/44, from C. IN C.E.F., with annotations by H Philpott; Navy Department Series 2 08/36/10 'W/T Intelligence - foreign broadcasts', April 1940-September 1945', National Archives, Wellington (A German submarine which visited the east coast of New Zealand near to Napier during the war - according to recent news reports sending crew ashore for supplies - had come from and returned to Penang.) The message is addressed to a standard AIG - Addressee Indicator Group (the same procedure is used today) - called EF (604Y) A.I.G. This presumably indicates that such reports be sent to set list of signals intelligence (Y) units cooperating in signals intelligence over the area of the British Eastern Forces control.

This message shows some of the potential traffic analysis to give information about the target forces and to assist subsequent interception work – in this case direction finding. A hand-written note on this message, by Philpott, tells his staff to refer the message to the Awarua station with a request for them to monitor these frequencies. The Awarua staff are asked to 'report any results with bearings'.

Most analysis of the signals intelligence collected in New Zealand occurred in Australia. There were two main allied code-breaking organisations: the Central Bureau in Brisbane and the Fleet Radio Unit in Melbourne (FRUMEL).

The Central Bureau existed from 15 April 1942 until late 1945 and was (after initially being located in Melbourne) situated at 21 Henry Street, Ascot, Brisbane. Its job was analysis, including code-breaking, of the messages gathered by radio interception operations. After the war it was transformed into the Defence Signals Bureau (DSB), predecessor of the current Australian signals intelligence organisation, the Defence Signals Directorate (DSD).

It was headed by an American, US Army Major General Atkin, and had one United States and one Australian assistant director (Dr Abe Sinkov and Lieutenant Colonel A W Sandford respectively). Its staff included 'service personnel of Australia, USA, Britain, Canada and New Zealand'.³⁴

FRUMEL was a Melbourne-based organisation run by the US Navy and also responsible for signals intelligence analysis. It was a very major operation involving hundreds of staff.

Each day, FRUMEL compiled a digest of intercepted Japanese radio traffic which was passed on to the Commander of the South West Pacific at Pearl Harbour. These Daily Digests of decrypted messages were declassified by the US Navy in 1987 and are now stored at the National Archives in Washington. They run to 3529 foolscap pages just for the period from March to December 1942.³⁵

Its staff included Australians and some New Zealanders. At least one of the code-breakers who worked in Campbell's unit in Wellington, a PhD in mathematics, spent time on the staff of FRUMEL.

34 Geoffrey Ballard, *On Ultra Service*, 1991, Spectrum, Richmond, Australia, p234.

35 David Jenkins, *Battle Surface*, 1992, Random House, from an excerpt in the *Dominion*, 10 October, 1992, p13.

Integration of the British and United States intelligence systems.

The defining feature of the WWII New Zealand intelligence organisation, including the signals intelligence operations, is that it was an integral part of and entirely reliant upon the allied intelligence network. In the early years of the war this meant a British/Commonwealth system, but the structures all changed after the United States entered the Pacific War.

In July 1941 New Zealand's navy representative in Washington (a British officer) had been instructed that 'exchange of intelligence with USA and Canada is most important and you should look at the question of improving our liason with both countries'³⁶. At this time the United States was a neutral party and it was by no means clear that it would enter the war.

But after the Japanese bombing of Pearl Harbor and the United States declaration of war on Japan in mid-1942, the United States rapidly took over command and control of the allied forces in the Pacific. From this time on, the British-run intelligence network increasingly became an American-run network.

All New Zealand sources of intelligence - from coastwatching to signals intelligence - now went into the United States intelligence system,

By 1943 British-American intelligence cooperation - which meant Commonwealth- American cooperation - was highly developed. Following a long process of negotiation, Britain and the United States signed an agreement in May 1943 formalising links between the two countries' signals intelligence agencies: the BRUSA Agreement (forerunner of the post-war UKUSA agreement).

James Bamford describes the BRUSA agreement as establishing 'for the first time intimate cooperation on COMINT (communications intelligence) at the highest level'.

'It provided for exchange of personnel, joint regulations for the handling of supersensitive material, and methods for its distribution. In addition, paragraph eight of the agreement provided that all recipients of high-grade COMINT, whether British or American, were bound to the severely strict security regulations that were appended to the document. The cooperation, procedures and security regulations set out in the BRUSA Agreement serve as landmarks in the history of communications intelligence. Even today, they form the fundamental basis for all SIGINT -activities of both the NSA and GCHQ.'³⁷

The BRUSA Agreement effectively covered those countries which were part of the British network. From that time on Australian and Canadian representatives were part of a series of signals intelligence conferences held under the auspices of the BRUSA

36 W.E. Pairy, Chief of Naval Staff, Jetter to Lieut Comm RJ. Bailey, 16/7/41; Navy Department Series 1 13/18/62 'New Zealand liaison officer to USA', National Archives, Wellington.

37 James Bamford, *The Puzzle Palace*, Sigdwick and Jackson, London, 1982, p 314.

agreement³⁸. There is no record of New Zealand being represented at these conferences and, if it wasn't, it was presumably represented by Australia.

The effects of BRUSA were soon apparent. Only a few days after the second of these Joint Allied Conferences, New Zealand was sent a letter from the British Admiralty concerning 'the measures necessary for effecting uniformity in British and American treatment of official documents'. Detailed instructions on how to apply the new regulations, 'adapting British practice as closely as possible to the terms of this Agreement', were to follow soon after³⁹.

Instructions contained in this Security Classification Agreement document, for example defining the terms 'Top Secret' and 'Secret', are identical to instructions for handling classified materials 'decided' by the New Zealand Government in the Cabinet Directive on Security Classifications issued thirty eight years later⁴⁰.

Other regulations stated that all authorised recipients of Special Intelligence must be carefully briefed and sign a document stating that they had read and understood the regulations and would observe them⁴¹; the same as the current practice of 'indoctrination'. Still other regulations stated that messages and reports based on signals intelligence must be written so that there was no indication of the source of the information, and others specified how to store signals intelligence: all regulations which have lasted up to the present.

As part of the allied/United States intelligence network, New Zealand adopted all of the standardised code words, regulations and procedures agreed to under the new Britain-United States arrangements.

The BRUSA Agreement and ancillary conferences occurred as the Pacific War was finally turning. Island by island, the massive United States military forces were destroying Japanese military strongholds and pushing back the area of Japanese military control. Integration of the Americans into the British system was naturally welcomed at this time.

In the next two years, though, atomic bombs had been dropped on Hiroshima and Nagasaki, the war was over, and the strong sense of common interest born of WWII experiences which produced this intelligence alliance had been transferred almost immediately to a new, quite different, cold war, which was rapidly developing into a nuclear confrontation.

38T The second of these Joint Allied Conferences was held on 13 March 1944. James Bamford, *The Puzzle Palace*, p31.

39 Admiralty letter, 14 March 1944; Navy Department Series I 17/8/1 'Combined Security Classification Agreement 1944-52', National Archives, Wellington.

40 Cabinet Directive on Security Classifications, CO(82) 14, 17/12/82.

41 SRH-196 'Regulations for maintaining the security of Special Intelligence in Pacific and Asia Theatres of Operations', 1944; quoted in Alan Stripp, *Codebreaker in the Far East*, Frank Cass and Co., London, 1989, p119.

Formation of the post-war intelligence alliance, 1945-50

Immediately after the war there was rapid demobilisation: most service people including nearly all of the intelligence staff returned to civilian life, coastal defences were dismantled, the Wellington intelligence centre was disbanded and the seven New Zealand-run signals intelligence stations were either returned to the Post and Telegraph Department or closed.

But less than a year after the fighting with Japan ended, five of the World War Two allies began rebuilding their intelligence capabilities against a new enemy, the Soviet Union.

The new structures and arrangements, established by Britain, Canada, Australia, New Zealand and the United States between 1946 and 1949, formalised the relationships which had been evolving during the war into a highly secret intelligence alliance which has continued up until the present.

Secret discussions occurred in 1946 deciding the arrangements for ongoing intelligence cooperation. During this year there were meetings at which commonwealth countries (UK, Canada, Australia and New Zealand) divided up the world into geographical areas of responsibility. These related to three main types of work: signals intelligence, joint military intelligence⁴² and naval intelligence.

In essence the changes which occurred then can be seen as the *British/allied* arrangements of WWII being cemented into post-war *Commonwealth* arrangements - in the case of signals intelligence effectively under the control of a British-American alliance.

In April/May 1946 a Commonwealth Prime Ministers' meeting was held in London to discuss how Commonwealth defence could be shared to relieve the economically exhausted Britain. Walter Nash represented New Zealand at this meeting, accompanied by Foss Shanahan the key New Zealand government official overseeing defence and intelligence matters during and after the war.

It was at this conference that the concept of dividing the world into regional responsibilities was agreed. Australia's Chifflery told the meeting that they had in mind intelligence organisations based in Melbourne, covering the Pacific area, staffed by both Australians and New Zealanders.

In the same year an important imperial sigint conference was held in London⁴³. At this conference arrangements were worked out which incorporated New Zealand into the new Commonwealth Sigint Organisation (CSO), headed by the GCHQ and with 'spheres

42' 'Joint' refers to military arrangements which serve all three services: army, navy and air force.

43 The conference was chaired by Sir Edward Travis, first director of the Government Communications Headquarters (GCHQ) when it was established in 1945.

of cryptographic influence' shared between Britain, Canada, Australia and New Zealand⁴⁴.

Australia responded to the Commonwealth plans quickly. During 1946 the DSB began operating in Melbourne⁴⁵, as did the Joint Intelligence Bureau (Melbourne), sister organisation of the JIB (Ottawa) and JIB in London formed the same year⁴⁶.

Fraser agreed that New Zealand did not need to have its own separate signals intelligence organisation or Joint Intelligence Bureau. He believed that New Zealand should fit into the Australian structures, with small numbers of New Zealand staff posted to the DSB and JIB(M)⁴⁷. As it turned out, this occurred with New Zealanders being posted to the DSB but, after the Melbourne JIB had held vacant positions for New Zealand staff for two years, a separate organisation was formed in Wellington in 1949.

Although New Zealand soon after began signals intelligence collection at Waiouru, the intelligence was sent overseas to be analysed and disseminated. The arrangement with Australia lasted for nearly thirty years until New Zealand set up its own full signals intelligence agency (eg with New Zealand-based analysis of the intelligence collected).

On 12 November 1947 an Australian Cabinet Committee, made up of only the Prime Minister and Minister of Defence, formally approved Australian participation in the CSO⁴⁸. A New Zealand National Archive search of confidential Cabinet Papers from 1947 and 1948 turned up no papers at all concerning New Zealand's intelligence relations. Whoever made the decision, they clearly decreed that no record of the decision be placed on the files⁴⁹.

During WWII the Prime Minister's adviser, Foss Shanahan, had primary responsibility for intelligence matters within the Prime Minister's Department and worked very hard to retain all intelligence business within the orbit of that Department. He is probably responsible for initiating what has become a New Zealand prime ministerial convention of maintaining exclusive control of intelligence matters (especially signals intelligence and internal security).

In 1947 or 1948 the United States and Britain signed one of the most significant and influential international agreements of the last fifty years: the UKUSA agreement. Like the Bretton Woods Conference of 1944 did on international trade, this agreement has shaped and dominated western signals intelligence operations throughout the post-war

44 Andrew, 'The Growth of the Australian Intelligence Community', *Intelligence and National Security*, Vol 4(April 1989), p224. Also it is worth noting that, although general geographic responsibilities were agreed to, signals intelligence collaboration never has strict boundaries. Owing to the characteristics of radio wave propagation, a New Zealand station may be well suited for providing signals intelligence coverage for a faraway area of the world (as was seen earlier in the paper with the WWII German intelligence New Zealand collected).

45 However the New Zealand JIO wasn't officially established until 12/11/47.

46 Christopher Andrew, 'Growth of the Australian Intelligence Community', *Intelligence and National Security*, Vol 4(April 1989)

47 Interview source.

48 Australian Cabinet Paper, 23/2/73, bearing the signals intelligence classification 'Secret Spoke'.

49 Geoffrey Palmer, Prime Minister, letter to writer 29/3/90.

years. Also like Bretton Woods, the UKUSA agreement between the victorious United States and depleted Britain placed the United States firmly in the dominant role.

Given its immense significance, one could expect that the actual UKUSA agreement document would have exciting and momentous contents. However the UKUSA document, which runs to many pages, is apparently made up of page after page of rather mundane agreed arrangements.

The agreement is definitely only signed by the United States and Britain - not five nations as generally supposed. But like the BRUSA agreement before it, the UKUSA agreement is a two country agreement which in practice covers more than two countries. UKUSA forms the basis of a very close, five nation alliance of the United States, Britain, Canada, Australia and New Zealand

Although the UKUSA agreement is only signed by the United States and Britain and so, strictly speaking, New Zealand isn't a party to it, it has been the basis of New Zealand's most secret alliance links for nearly fifty years and is the foundation for the Government Communications Security Bureau, New Zealand's largest and least known intelligence organisation.

The explanation is that the UKUSA agreement includes protocols which provide for Britain's three Anglo-Saxon commonwealth partners to participate in signals intelligence arrangements with the two actual signatories provided that they've agreed to observe all the regulations and procedures contained in the agreement. It is these protocols which New Zealand, Australian and Canadian representatives would have signed in the late 1940s.

Three paragraphs of a proposed 1948 United States-Canadian Agreement on signals intelligence cooperation have been found in United States archives. This agreement may well have been part of establishing the protocols to the UKUSA Agreement referred to above. Identical wording was probable agreed to by Australia and New Zealand.

These paragraphs give a very good picture of the type of contents and style that would be found in the UKUSA agreement and its protocols. The first, paragraph five, is said in the document 'to use substantially the same definition as is used in the BRUSA'.

5. Scope of the arrangements.

These arrangements will govern the relations of the above-mentioned authorities in regard to Communication Intelligence which will be understood to comprise all processes involved in the collection, production and dissemination of information derived from the communications of countries other than the U.S.A., the British Empire, and the British Commonwealth of Nations. It is realised that collateral material is often required for technical purposes in the production, and the proposed agreements for exchange of such material are dealt with separately in this letter.

6. Extent of Exchange of Information Related to Communication Intelligence.

The two Communication Intelligence authorities will exchange the following information on the bases indicated:

a. Translation and gists will be exchanged:

- (i) On the request of each authority to meet the requirements of the COMINT centres for assistance in the efficient discharge of their mutually agreed-upon activities and undertakings.
- (ii) On a 'need to know' basis as determined by the originating authority.

17. In order to implement these arrangements as effectively as possible, it is assumed that each authority may establish liaison officers at the COMINT centres of the other authority with such freedom of action as is agreeable to the host authority.⁵⁰

The effect of the UKUSA agreement was to integrate Commonwealth and United States signals intelligence through an elaborate and highly organised structure of common code words, procedures and technical systems. This agreement was, and remains, so secret that, although known about, it was never seen even by most senior New Zealand intelligence staff from that period.

New Zealand became part of the UKUSA alliance at the same time as the other nations. New Zealand's involvement was presumably agreed to by Fraser and the protocols signed by him or his immediate prime ministerial staff.

It is not surprising that no New Zealand government has ever publicly acknowledged the existence of the UKUSA agreement: it is a British and United States agreement which New Zealand has no authority to publicise if those countries won't. It is said to be the British government which insists on keeping even the existence of the agreement a secret.

The result is that New Zealand's most enduring and significant intelligence links (and in particular, the choice of primary allies) have never been a subject of public discussion since they were cemented in the late 1940s. Nevertheless, intelligence staff clearly understand the UKUSA agreement - said 'you-koo-za' - to be the basis of the five country system within which New Zealand signals intelligence operates every day.

Other types of intelligence

A few months after the 1946 London CSO signals intelligence conference, similar negotiations between the four commonwealth allies led to an agreement on cooperation between Joint Intelligence Bureaus, to be formed in Melbourne, Ottawa, London and, subsequently, Wellington (JIB(M), JIB(O), JIB(L) and JIB(W)).

⁵⁰ Walter R Agee, Acting Director of Intelligence, 'Memorandum for the Coordinator of Joint Operations. Subject: Proposed U.S.-Canadian Agreement', Enclosure 1 'Amendments to Paragraphs 5, 6(a) and 17 to Proposed Canadian Letter as Amended', 7 June 1948. Supplied by Jeffrey Richelson.

Each JIB took responsibility for the same geographic areas allocated for signals intelligence at the London conference and agreed to share its intelligence with the others. At that time 'JIB intelligence' mainly meant the types of geographical military information which would be needed to fight future wars.

During the 1946 negotiations which led to the JIBs being formed, each organisation was directed to 'collate, evaluate and distribute factual intelligence relating to the topography, communications, ports and harbours, landing beaches, aviation facilities, the defences, the economic, industrial and manpower resources, and social and constitutional organisation of countries within its area of responsibility'⁵¹.

The New Zealand bureau began operations on 4 April, 1949, the same day that NATO was formed, with its new director Lieut Comm Jaynes seconded from his job as Deputy Director of Naval Intelligence. Originally called the Joint Intelligence Office (JIO), the organisation had the same functions as the other JIB's and in February 1953 also adopted this name.

In contrast to the five country signals intelligence system there was not a special five nation arrangement developed for JIB or 'finished' intelligence. The United States Central Intelligence Agency '(CIA) soon after established links with all four nations individually but it was as a series of bilateral agreements. The CIA already had worldwide systems and so, while it did enter agreements into with New Zealand and the others for exchange of intelligence, it was not involved in the creation, the policies or the operations of the four-nation Commonwealth JIB system.

The establishment of New Zealand's formal intelligence links with the CIA occurred in the early 1950's, against the background of the Korean War and the signing of the ANZUS Treaty in 1951.

These links were arranged in discussions between the CIA and Brigadier Walter McKinnon, New Zealand's defence representative in Washington and father of the National Government Minister of Foreign Affairs (1990-) Don McKinnon. The arrangements included liaison visits to New Zealand by the CIA representative based in Australia and a New Zealand liaison officer with the CIA in Washington⁵².

The Joint Intelligence Office was established to service a Joint Intelligence Committee (JIC) which existed from 1949 - 1964. Modelled on the British JIC, it was made up of the directors of naval, military and air force intelligence, a representative of the Dept of External Affairs and the head of the new JIO.

A 1950 summary of issues considered by the JIC at that time included collecting 'beach' and other intelligence from the 'New Zealand intelligence area', the security of New Zealand classified communications and its allies' cyphers, studying the implications of

51 Sheddon, memo for Dedman, 20 Dec 1948, Dedman Papers, NLA MS 987, series 9, f.34, National Library of Australia, Canberra. Quoted in Andrews, 'Growth of the Australian Intelligence Community'.

52 Interview source. McKinnon had wanted the contact to be through military channels, but the External Affairs Department took over this job.

recognising communist China, the security implications of the Chinese population in New Zealand and distribution of intelligence reports arriving from overseas⁵³. It looks as if the concerns and priorities of the committee, such as communist China, were in part derived from the preoccupations of the overseas intelligence reports.

A third type of intelligence cooperation - covering naval intelligence - was also formalised between the English-speaking commonwealth countries at this time and, for New Zealand, involved intelligence collection over the same 'New Zealand intelligence area'. A look at the history shows how a combined commonwealth system evolved very naturally out of the previous naval intelligence structures.

Prior to WWII, naval intelligence incorporating these countries had been entirely part of a British system. A Royal Navy officer - New Zealand's Staff Officer (Intelligence) (SO(I)) - looked after the 'New Zealand Station' on exactly the same basis as the Royal Navy SO(I)'s in Kingston, Colombo or Canberra looked after their designated areas each being a link in the British Admiralty's world-wide Naval Intelligence Scheme⁵⁴.

After the war, during which period New Zealand's navy underwent a change from being the New Zealand Division of the Royal Navy to being its own Royal New Zealand Navy, each of the four countries took over control of its own region.

The naval intelligence work included (and still does) the maintenance of a network of reporting officers (eg consuls) in the ports throughout the region. These officers keep records of the comings and goings of all vessels naval and merchant marine – allowing the central naval intelligence offices to build up a picture of ship movements within their area⁵⁵.

The old naval intelligence system has had an enduring influence on New Zealand intelligence operations by geographically defining the New Zealand intelligence area.

The original lines were drawn as part of the division of the world's oceans into administrative regions, the stations. The New Zealand Station, previously part of the China Station, was formed in 1920.

The New Zealand Station covered over a sixth of the area of the globe (larger than the Australia Station), extending from a line between New Zealand and Australia across beyond French Polynesia to the 120 degrees longitude and from Antarctica to the equator plus a large extension north of the equator to include Hawaii and Midway Island.

53 Confidential source.

54 F.M.Beasley, RN, 'Status of SOI Wellington' Navy Office Minute, 17/9/41; Navy Department Series 1, 13/18/4 'Staff Officer (I), Director of Naval Intelligence Wellington, pt2, 1939-58' National Archives, Wellington

55 New Zealand-born Director of Naval Intelligence, Bob Cheyne, returned from a several month long training posting to British Naval Intelligence in 1946 to establish a two person peace-time naval intelligence office. During this trip he had been introduced to the workings of the British system, including being taken to the GCHQ headquarters at Bletchley Park and shown the Colossus computer they had developed for breaking other countries' codes, the world's first electronic computer. Thereafter naval intelligence conferences were held every one or two years to discuss improvements in procedures and exchange information on current conflicts. In the early post-war years these included conferences in Britain, Australia and Singapore.

It was this British naval area, with a few adjustments such as tactfully moving the northern line to just south of Pearl Harbor, which formed the basis of the intelligence responsibilities agreed to by Fraser in the late 1940's. This was now the 'New Zealand intelligence area' for signals intelligence, JIB intelligence and naval intelligence - ie the primary area about which New Zealand was responsible for providing intelligence to its allies (New Zealand's area of intelligence interest would have been much wider).

Precisely the same area (defined to 21 degrees north of the equator), became New Zealand's area of responsibility within the Commonwealth network for control of naval operations⁵⁶, and a similar area makes up the 'maritime surveillance area' (MARSAR) under the Radford Collins agreement (only extending as far as the Exclusive Economic Zone of the Cook Islands in the east)⁵⁷ and remains the basis for various other areas of military planning today.

Until recently at least, the External Assessments Bureau has prepared individual 'New Zealand Intelligence Briefing Memoranda' - reports describing all aspects of a particular country's geography, infrastructure and peoples - for each of over a dozen small South Pacific countries and dependencies and provides these to its intelligence allies. It is no coincidence that these island groups stretch over a clearly defined segment of the South Pacific - exactly that area allotted to New Zealand in the worldwide carve up of intelligence responsibilities 40 years earlier.

New Zealand's post-war signals intelligence station and analysis staff

By the beginning of 1947 many of the details of the post-war intelligence alliance had been decided and from that time on New Zealand intelligence planning was being shaped by these structures.

One of the first moves, in 1946-47, was the inception of plans for a permanent New Zealand signals intelligence station to be established at Waiouru in the central North Island⁵⁸. Similar planning was occurring in Australia at this time: in 1946 the DSB's Pearce station was opened, in February 1947 it was followed by a station at Cabarlah and, in 1949, DSB/GCHQ operations started in both Hong Kong and Singapore⁵⁹.

No files concerning New Zealand post-war signals intelligence operations have ever been released to the National Archives. But seemingly routine administrative correspondence from the late 1940's reveals the next stage in the development of signals intelligence in New Zealand.

56 NZ Ministry of Defence, 1960 annual report, p20

57 NZ Ministry of Defence, *Strategic plan of NZ Defence Forces*, 16 June 1989, restricted.

58 There is no evidence that the radio stations at Waiouru had a significant role in intelligence during the war. This is not surprising since they did not become operational until August 1943 when the main fighting in the Pacific War was moving far away from New Zealand's area.

59 Jeffrey Richelson and Des Ball, *The Ties That Bind*, 1985, Allen and Unwin, Sydney, p40.

In January 1947 the Navy Department began negotiations with the War Assets Realisation Board to purchase a WWII radio receiving station at Waiouru which the Air Force had closed down the year before. Situated only 400 yards from another receiving station run by the navy (called 'NR2'), it had become clear that there would be no need for two stations in peacetime.

The receiving station was situated in swampy country - giving good radio reception - on Maukuku Road, a few miles south of Waiouru township on the high central North Island plateau. A year later the Navy bought the station for five thousand pounds and, in early 1949, New Zealand's most secret military facility, referred to only by the name 'NR1'⁶⁰, quietly began operations. For the next thirty three years special signals intelligence staff based there did their work of intercepting other countries' radio messages. Then in 1982, still completely unknown to the public, the station closed just as quietly as it had opened and the operation was moved to Tangimoana.

After NR1 changed to intelligence work, little changed on the outside of the station except for the addition in 1949 of 'unclimbable' security fences and in 1950 heavy metal bars on all the windows. But inside a continuous process of development began.

This operation, now under the auspices of the UKUSA Agreement, had no continuity of personnel from the Second World War. The staff who had learned their skills of locating and translating radio messages sent in morse code during wartime intelligence work had moved elsewhere or, mostly, back to civilian life during the intervening years.

The NR1 radio operators used state-of-the-art equipment made available and continually updated by the UKUSA partners. They presumably received directions on what to monitor from the Melbourne-based Australian signals intelligence organisation (DSB, later DSD), the regional controlling centre, and sent back all their results by teleprinter to Melbourne for analysis and distribution around the network⁶¹.

It is not clear whether any signals intelligence operations occurred between the end of the war and early 1949 when NR1 opened. If something did continue (obviously on a much smaller scale), it would have been a small navy operation probably based at the Waiouru *naval* radio station NR2.

It may be relevant that some of the navy aerials at NR2 were 'refocussed' to the north in 1946. The purpose of this may have been to allow signals intelligence work. The wartime naval signals intelligence staff who went on to work at NR1 either worked here or, perhaps, were simply assigned to other duties for the three years before NR1 began operations.

60 NR1, said 'NR-one' by the staff, stood for 'Navy Receiver One'. Previously the Airforce receiving station had been designated ARI, the navy station NR2; so when the Air Force's AR 1 was transferred to the Navy it was renamed NR1.

61 By 1956, at least, DSB was in turn connected into the UKUSA network by a special secure teletype communications system established by the United States signals intelligence organisation, the National Security Agency (NSA). A 1955 US report shows the DSB connected to the NSA via a 'Centralised COMINT (communications intelligence) Communications Centre' (CCCC) in Hawaii. Report by the Joint Communications Circuit Engineering Board to the Joint Communications-Electronics Committee on 'Revision of interim outline plan for telecommunications support of National Security Agency', Ref: J/CCE 165/D, 19 July 1956.

An indication of the orientation of the UKUSA network which the New Zealand station served at that time NR1 opened can be found in a May 1948 British Joint Intelligence Committee paper; 'Sigint Intelligence Requirements - 1948'⁶². Of the fifty two subjects listed in priority order as targets for British signals intelligence, forty five concern the Soviet Union (including all those ranked priority I, II or III)

We can only guess at precisely how the Waiouru station contributed. It seems likely that 'communists' in South East Asia, whether of the Chinese or simply independence movement variety, would have been a major preoccupation.

Meanwhile, New Zealand military staff began to be posted to the Melbourne-based Defence Signals Bureau (DSB) to fill the posts New Zealand had agreed to fill there (as a substitute for setting up a separate signals intelligence organisation of its own).

These staff were presumably not signals intelligence specialists, but rather military officers filling analysis and possibly administrative posts. The analysis role might have involved, for example, an officer with specialist knowledge of naval or air force matters working as an analyst studying intelligence information coming in about a particular country's Navy or Air Force.

NR1 was originally run by the Navy (overseen by an inter-service committee) and the staff, like those posted to work as New Zealand's contribution within the DSB, were uniformed. However In the early 1950's a general trend towards civilianisation was occurring in the military.

By 1955, when New Zealand's own signals intelligence organisation was formed the staff were virtually all civilians. Signals intelligence staff in New Zealand have been civilian ever since.

On 15 February 1955, Cabinet approved the formation of the New Zealand Combined Signals Organisation (NZCSO), comprised of the staff at NR1 overseen by a military officer (called the Distribution Officer) in the Wellington defence headquarters.

The history of New Zealand's signals intelligence activities between 1955 and the present are the subject of ongoing research by the writer. This period includes the development of NZCSO activities at NR1 and the secondment of NZCSO staff to a secret British/Australian station in Singapore and to other Australian stations, as New Zealand's contribution to the five nation signals intelligence alliance.

62 JIC (48) 19 (0) (2nd revised draft), 'Sigint Intelligence Requirements - 1948', reproduced in full in Richard Aldridge and Micheal Coleman, 'The Cold War, the JIC and British Signals Intelligence, 1948', *Intelligence and National Security*, Vo13 (July 1989).

Then, in 1977, the next major phase of the growth of signals intelligence in New Zealand began with the formation of a modern signals intelligence organisation, the Government Communications Security Bureau. The period since 1977 involved a large increase in the scale and breadth of signals intelligence operations in New Zealand. These periods will be described in future publications.
