

Signals Intelligence in New Zealand during the Cold War

This article is partly based on new information from the Government Communications Security Bureau (GCSB), including the relevant sections of a draft history of New Zealand signals intelligence written by the first Director of the GCSB, Colin Hanson, after he retired.

Re-establishing a Signals Intelligence Capacity, 1946–1954

During World War Two New Zealand had maintained a small but very active signals intelligence (SIGINT) organisation. With the Allied victory, however, SIGINT operations in New Zealand came to an abrupt end. According to John Tonkin-Covell's study of military intelligence during the war, the British officer who was to look after intercept intelligence in 1946 'was surprised at what he found when he arrived. There was virtually nothing left.'¹ What was left was a rump SIGINT capability at the military radio stations at Waiouru where a number of personnel who had been active in wartime SIGINT continued to work in communications roles.²

International developments in 1946, as the Western allies reacted to the rapidly changing relationship with the Soviet Union, would lead to a revival of SIGINT in New Zealand. At a Commonwealth conference on post-war SIGINT organisation, held in London early that year, Britain proposed that the members of the Commonwealth create a global SIGINT network under the 'broad direction of the United Kingdom.' One specific recommendation from the conference was that 'a multi-national signals intelligence centre' should be set up in Australia involving Britain, Australia and New Zealand, each in 'an equal role.'³ Other recommendations were that Australia establish four intercept and direction finding (DF) stations around the country, and that New Zealand set up its own intercept station and possibly man the British DF station in Suva, Fiji.⁴ At the end of the year a British delegation, led by the Director of the Government Communications Headquarters (GCHQ), visited Australia and New Zealand to discuss the implementation of the proposals. The main New Zealand representative at these talks was Colonel (later Brigadier) H.E. Gilbert, who would become the Director of the New Zealand Security Service (later, the New Zealand Security Intelligence Service – NZSIS).⁵

Another important development in 1946 occurred when Britain and the United States formalised the continuation of their wartime SIGINT cooperation by signing the U.K.-U.S. Communications Intelligence Agreement, which was soon referred to as 'UKUSA'. By July 1948 three other wartime allies, Canada, Australia and New Zealand, had been recognised as 'collaborating Dominions' to the agreement.⁶ Much later this five-nation intelligence alliance would be known as the 'Five Eyes'. However, because of its limited capabilities for many years, New Zealand was very much the junior member of this top secret collaboration, with its communications with United States SIGINT agencies going through Australia and Britain for the next three decades.⁷

In December 1946 Prime Minister Peter Fraser agreed in principle to New Zealand participation in the SIGINT centre being set up in Melbourne, together with the creation of a new SIGINT intercept facility in New Zealand.⁸ Early the following year the Navy Department purchased a run-down Royal New Zealand Air Force radio receiving station from the War Assets Realisation Board. The station, which was near the naval receiving station at Waiouru,

had been recently closed.⁹ Progress was slow due to a shortage of qualified personnel, but the station, known as NR1 (Navy Receiver 1), recommenced operations in November 1948. For 34 years it was the centre of SIGINT activity in New Zealand.

Meanwhile, New Zealand participation in the Melbourne centre was also proceeding slowly. Australia was adamant that even though British (and New Zealand) assistance was welcomed, the centre was to be ‘under the control of Australia and headed by an Australian.’¹⁰ This was not a problem for New Zealand; rather the difficulty was a shortage in the peacetime armed forces of trained staff for any SIGINT activity. A report presented to Fraser in May 1948 stated: ‘No trained ratings are at present available from the Services nor are any likely to be available for some time.’¹¹ It proposed that the contribution to the Melbourne station be limited to one person, an Army officer already posted there. In relation to the Waiouru station, it was impossible to achieve even the minimum personnel target of 26 officers and men. Staffing levels at the station ‘hovered between the 12 to 20 mark for a number of years – a mixture of naval ratings, naval civilians and seconded Army signallers, together with personnel on loan from overseas.’¹²

A GCSB paper would later state that: ‘Intelligence as a subject did not enjoy a significant profile in Wellington [and] over the years 1948-1954 little of enduring nature was achieved.’ It did not help that the NR1 station at Waiouru was overseen by a joint-services committee (‘never a successful formula’), with the Navy responsible for administration and financial control, the Army for accommodation (‘dilapidated’) and the Air Force for equipment (‘antiquated’).¹³ In relation to the latter, a technical report in 1954 concluded that the ‘intercept station at Waiouru was of marginal value only to the 5-nation collection effort [because] the major targets of intelligence interest [were] beyond the effective range of the aged equipment then in use.’¹⁴ Despite such problems, the staff of NR1 maintained a limited intercept watch, under the direction of the Melbourne centre (initially called the Defence Signals Bureau, then the Defence Signals Branch and later the Defence Signals Division).¹⁵ Attempts were made to better integrate New Zealand into the Australian operations and the wider UKUSA systems, with experienced New Zealand radio operators being sent to Melbourne to train in ‘special communications work’.¹⁶

The Burrough Report, 1954

For some time the Government had been recognising the limitations of New Zealand’s SIGINT structure, and in August 1954 the Director of the Defence Signals Branch (DSB) was invited to send a team to New Zealand to assist ‘in determining the potential of the intercept station at Waiouru’ and to advise on the form for ‘future New Zealand participation in the British Commonwealth Sigint Organisation.’¹⁷ The DSB responded by despatching John Burrough (the senior GCHQ officer at the DSB) and an experienced technical officer to New Zealand at the end of the year. Discussions in Wellington and at Waiouru showed that Burrough’s views were similar to ideas already evolving in New Zealand, and led to a report (known as the ‘Burrough Report’) in December, which proposed a new organisation for SIGINT in New Zealand.¹⁸

The main recommendation was that a New Zealand Combined Signals Organisation (NZCSO) should be established under the Navy Office. It would, however, be staffed by civilians, with nearly one third of them to serve overseas at Australian and British SIGINT posts at any given time. Burrough stated that these overseas posts were considered to be of ‘more value to British Commonwealth Sigint’ than the station at Waiouru and ‘more useful to the NZCSO’ for

advanced training. The report also said that the equipment at Waiouru should be upgraded to enable the interception teams 'to make the best possible use of the site'. In addition, a high-frequency direction-finding (HF DF) station should be set up at Waiouru to allow 'basic training in DF'.¹⁹

On 15 February 1955 the New Zealand Cabinet approved the recommendations of the Burrough Report, thereby establishing the New Zealand Combined Signals Organisation (NZCSO) and 'setting the scene for [its] staffing and operations' for the next two decades.²⁰

The New Zealand Combined Signals Organisation, 1955–1977

As the Navy later stressed, the NZCSO, 'though administered by the Navy, is a national organisation and is not part of R.N.Z.N. [Royal New Zealand Navy] activity.'²¹ The organisation was overseen by an inter-Service Defence Signals Committee, chaired by a 'Distribution Officer' at Defence Headquarters in Wellington. Investigative journalist Nicky Hager has described the Distribution Officer's role as running what 'was in effect a high security mailroom', where 'top secret intelligence reports' were received from overseas agencies and circulated mainly to 'Chiefs of Staff and intelligence directors'.²²

The NZCSO gradually implemented the proposals of the Burrough Report, obtaining and upgrading equipment and employing new staff. According to a RNZN paper, by 1960 a 'full establishment' of 42 staff had been recruited, with 33 of these serving in New Zealand, 7 in Australia and 2 at a secret joint British-Australian SIGINT station in Singapore. It stated that 4 of the radio operators in New Zealand were to be sent to Singapore, 'to meet New Zealand's obligation' of 6 staff to be posted there.²³

The NR1 station at Waiouru was controlled by the Station Radio Officer who, until 1959, was an officer on loan from Britain. From then on New Zealanders were in charge, in particular Jim Timlin, who had earlier been described as 'the outstanding personality' at the station.²⁴ Timlin had been sent to GCHQ on a three-year exchange in the late-1950s and, after his return ran NR1 from 1959 to 1968 and again from 1972 to 1982. Another senior officer, Wally Brendon, went to GCHQ in the mid-1960s and was Station Radio Officer from 1968 to 1972.²⁵ These postings illustrate the very close links between NR1 and GCHQ during the NZCSO years.

A recent GCSB paper states that the Burrough Report 'had concluded that the Waiouru site was not suitable for good interception of HF signals, and that it should therefore be used largely as a training facility. The first Station Radio Officer disagreed with this conclusion, and over the next few years the station was able to demonstrate the ability to intercept a wide range of foreign HF communications.' As a result, NR1 from time to time was asked 'to pick up on collection on a signal that another, allied HF station' could not hear clearly 'because of atmospheric conditions.'²⁶ A reflection of NR1's increased effectiveness and workload can be found in the NZCSO annual report for 1964, which noted that 'the amount of work being levied on the station had increased to the extent that at least one more radio operator per shift was needed.'²⁷ According to Hager, 'all the directions on who or what to monitor came from the DSB in Melbourne' and 'the raw data collected' was sent back to Melbourne. NR1's function was interception, not analysis. A staff member, moreover, later told Hager that the station had 'no significant input into priorities and targets' and, as with most Western intelligence agencies, 'the primary preoccupation was Communism.' Ships in the Pacific were also a 'major target' for the station.²⁸

New ways of transmitting messages meant new technologies were needed for interception. Hager notes that the 'NR1 officers were impressed by the advanced technology made available by the American and British agencies.'²⁹ However, working conditions at the Waiouru station, out on the bleak Volcanic Plateau, were poor, with the facilities being 'draughty, uninsulated and cramped.' Annual reports stated that 'operating staff frequently wear heavy overcoats during winter night shifts and even so there are many cases of colds and influenza.' During winter mice were prevalent, along with rats, opossum and stoats, in the channelling 'under the floor, though the walls and across the ceilings.' Furthermore, the accommodation provided by the Army was of a low standard. Many of the houses for married men 'lacked insulation' and had 'leaking roofs', which was 'a contributing factor in the ability of NZCSO to recruit and retain staff.' Although most of the members of the NZCSO had military backgrounds, generally the staff were now civilians, and after they and their families returned from overseas postings they 'found the return to Waiouru unattractive.' One improvement was the construction of a new hostel for the single men in the mid-1960s.³⁰

In 1966 there were still 42 personnel working for the NZCSO, in New Zealand and overseas. Following a review that year, 'modest increases occurred, in spite of difficulties in recruitment, and establishment reached a maximum of 51 in 1975.'³¹ Of this number, 29 staff worked at the NR1 station at Waiouru, maintaining a seven days a week, twenty-four hour watch system, with three daily eight hour shifts.³² Hager notes that it was 'a high pressure job' and 'as a shift ended the next worker would slide into position, putting his headphone in as the other pulled his out.'³³

The annual reports show that NR1's equipment and aerials 'were upgraded from time to time.' However, in 1968-69 this piecemeal approach was replaced by a substantial upgrade, which included 'an overhaul of all aerial and feeder lines.' The 1969 report commented that 'for the first time in memory the aerial farm for this organisation has been based on a practicable plan' and shows 'the benefits of thorough research, well-planned construction and methodical neat workmanship.'³⁴

New Zealand's increasing involvement in the Vietnam War in the late-1960s was reflected in changes at the NZCSO. According to the annual reports, the range of communications that the organisation intercepted had considerable expansion. This was seen to be in part because of 'the increasing numbers and expertise of the staff employed by the station', but also 'in later years could be attributed to growing demands for intelligence from New Zealand and allied authorities.'³⁵ Hager notes that as 'the volume of overseas signals intelligence reports increased dramatically' during the Vietnam War, changes needed to be made in the Distribution Office at Defence Headquarters. Staff numbers grew steadily and by 1973 'the Distribution Officer had a staff of 10, including six radio officers and three clerical staff'.³⁶

Greater expertise led to more successful interception. In relation to 'one important military target', the annual reports stated that 'the NZCSO had a detailed knowledge of each type of communication used by the target, and were able to identify changes made during military exercises and operations, such as changes to frequency, call signs, etc. to improve security, and were able to maintain good coverage of those communications.'³⁷

By the early 1970s the NZCSO was contributing ten radio operators (seconded on three-year postings) to the British-Australian SIGINT station in Singapore. According to Hager, this large station targeted most of the countries in south-east Asia and, along with interception activities,

used direction finding equipment to support United States bombing raids in Vietnam, Laos and Cambodia.³⁸ After the station was closed in 1974, its NZCSO operators were posted to positions in Australia.

Oversight arrangements for New Zealand SIGINT had changed some time earlier, following a review ordered by the Chief of Defence Staff (CDS) in 1968. As a result, the Secretary of Defence and CDS had taken up joint responsibility for SIGINT, delegated in practice through the Distribution Officer.³⁹ In the mid-1970s, however, a much larger reorganisation began, led by Secretary of Defence John Robertson and the Director of Defence Intelligence, Group Captain Colin Hanson. It was at this time that the Ministry of Foreign Affairs noted: 'Signals intelligence lies at the heart of New Zealand's relations with its closest allies and friends.'⁴⁰

A brief GCSB biography states that Hanson became 'the "mover and shaker" behind the effort to establish an organisation' that could control not just SIGINT but also wider communications security policy and technical security procedures across the New Zealand Government.⁴¹ Hanson later described the factors driving this change. The facilities at Waiouru had continued to be in a 'poor condition' and, as he informed Robertson, a complete refurbishment was required or 'preferably, the construction of a new station in a different location.' This would both 'enhance reception' and 'help solve staff retention and other personnel management problems.' Then in 1975 the Director of the NZSIS, Brigadier Gilbert, informed senior officials that the NZSIS no longer had the capability required to carry out technical communications security inspections. As a result Hanson requested, and Robertson approved, 'the purchase of modern, specialised, equipment and a modest inspection capability was developed within Defence Intelligence.'⁴²

The following year the Directors of Communications Security at the GCHQ and Melbourne's DSD were invited to 'inspect and report on the state of communications security in New Zealand.' Their report in November 1976 'added a further powerful reason why there should be a national body for communications security, as well as signals intelligence, and that these two functions should be the responsibility of one organisation.' The next month the New Zealand Intelligence Council approved a paper written by Hanson 'recommending the establishment of an agency, to be known as the Government Communications Security Bureau.' (As Hanson later noted, the proposed title 'went some way towards disclosing the functions of the Bureau, but still preserving the secrecy of the Sigint function.')⁴³ In early 1977 senior officials held discussions with the DSD and other Australian agencies about the proposals, following which a paper was sent to Prime Minister Robert Muldoon recommending the establishment of the GCSB. He agreed, and in September 1977 the Bureau began operations, with Hanson (now a civilian, having retired from the Air Force) as its first Director.⁴⁴

The Government Communications Security Bureau, 1977–1990

At its commencement, the GCSB's staff 'comprised 39 members of the NZCSO – 23 at Waiouru, 13 at DSD, Melbourne and 3 in Wellington'.⁴⁵ Additional officers were soon recruited to cover the new communications and technical security roles, and four technical security inspectors were sent to Australia and Britain for training. The SIGINT arm also continued overseas training through 'attachments and hands-on experience ... from all the collaborating agencies.' Hanson later wrote that the aim was to develop the GCSB as a 'New Zealand agency with capabilities equalling those of its partners.'⁴⁶

Planning began for a purpose-built high frequency radio station in a less remote location than Waiouru. It would need to be ‘in an area of good radio reception, close to a Defence facility for support purposes and within a reasonable distance of private housing, schooling, shopping, etc.’⁴⁷ After a number of options were considered, a site near the Tangimoana village in Manawatu (and close to the RNZAF base at Ohakea) was chosen. Twenty-nine additional staff were recruited and trained, but the building of such a facility took time and it was not until August 1982 that the Prime Minister officially opened the Tangimoana station. In his speech, he referred to one of the most significant operations carried out by the GCSB, namely, supporting British intelligence agencies during the recent Falklands War.⁴⁸ As Jeffrey Richelson and Desmond Ball have noted, during the war ‘the Irirangi station was able to monitor Argentine naval traffic’ which assisted Britain in forming ‘a clearer and more comprehensive picture of the Argentine Navy’s Order of Battle and its deployments.’⁴⁹

In 1980 the United States’ Director of Central Intelligence approved direct relations between the National Security Agency (NSA) and the GCSB and, according to Hanson, up to 1985 the other Five Eyes agencies ‘went out of their way to support the GCSB in every possible way.’⁵⁰ A GCSB paper from that period assessed that ‘New Zealand will never be in a position of being able to meet all its own requirements through its national intelligence collection assets. New Zealand remains committed therefore to making a meaningful contribution to the common signals intelligence effort.’⁵¹

This common effort was severely tested by a crisis in the ANZUS alliance, the Pacific security alliance established in 1951 between the United States, Australia and New Zealand. The crisis was precipitated by the New Zealand Labour Government’s decision to ban nuclear ship visits in 1985. Hanson wrote that the work to establish and build the GCSB ‘came close to completely unravelling following the ANZUS dispute ... There were powerful voices in Washington which, had they been heeded, would have led to the complete severance of intelligence ties with New Zealand. It was indeed fortunate that some senior officials, such as Lieut. General L.D. Faurer, Director NSA, argued strongly against damaging the five-nation Sigint arrangements.’⁵² Nevertheless, the United States significantly reduced New Zealand’s access to SIGINT material. According to Alexandra Neems’ sources, the NSA asked the other Five Eyes members to exclude United States content from information provided to New Zealand. The GCSB was also excluded ‘from the Allied Far East SIGINT Conference.’ Neems further states that ‘it was acknowledged by the GCSB that in the event of New Zealand losing all United States collection assistance, a heavy burden would fall on the agency’s collection facilities – a burden which could not be sustained.’⁵³ In response to the crisis, the Labour government increased the bureau’s funding and it was able to employ more staff.

Despite the strained relationship with the United States, the GCSB continued to intercept signals from countries across the world, some of which had little direct interest to New Zealand, and to share these interceptions with its allies. The GCSB’s 1985/1986 Annual Report stated that the Tangimoana station had intercepted 165,174 messages, from French, Vietnamese, Laotian, North Korean, Egyptian, Argentine, Soviet, East German, Japanese, Philippine, South African and United Nations targets during the period. The bureau was also involved in intelligence gathering ‘on Indian and Polish activity in Antarctica and Chinese and other government traffic.’⁵⁴ Nevertheless, the GCSB appears to have obtained no advance warning of the French bombing of the *Rainbow Warrior* in Auckland harbour in July 1985 (or later of the Fiji coup d’etat of May 1987). After the bombing, the bureau, according to its annual report, mounted ‘a special collection and reporting effort ... against French vessels in the NZ

area, particularly the yacht *Ouvea* (on which some of the French agents escaped from New Zealand). NSA and GCHQ were also requested to monitor certain Paris telephone addresses.⁵⁵

Shipping, especially Soviet fishing vessels, research ships and ice breakers in Pacific and Antarctic waters, were regular targets for the GCSB. In the late-1980s, too, New Zealand launched an international campaign against large-scale drift-net fishing in the Pacific by fleets from Japan, Taiwan and South Korea, which was destroying tuna stocks. Information gathered by the GCSB was used 'to prove the massive scale of drift-net catches' and helped lead to the banning of drift-net fishing in most of the Pacific.⁵⁶

The GCSB had first considered the interception of satellite communications in 1979 but it was not until 1987 that the Government decided that a satellite interception facility would be built in New Zealand. This was partly in response to the ANZUS crisis and was intended to make New Zealand 'less dependent on intelligence from other nations.'⁵⁷ A site was chosen at Waihopai in Marlborough and the station, with its one satellite dish, was opened in September 1989.

This significant technological advance occurred just as the Cold War was coming to an end. For some years the GCSB and its partner agencies would struggle to find their feet in the new environment. As a NSA report later stated: 'Relationships were less focussed as targets became harder to identify, muddling attempts to articulate goals and directions.'⁵⁸ However, many of the old targets remained, and at the beginning of the twenty-first century new ones arose, leading to a rapid growth in operations, resources and interaction for all the Five Eyes agencies, including the smallest partner, the GCSB.

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- ³ Colin Hanson, Draft History of New Zealand SIGINT, Topic 5: 'The Post-War Years, 1945 – 1955', GCSB.
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- ⁵ *Ibid.*, pp.316-317.
- ⁶ NSA/CSS UKUSA Agreement Release, 1940-1956, <https://www.nsa.gov/news-features/decclassified-documents/ukusa/>, accessed December 2017.
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- ⁹ Nicky Hager, *Secret Power* (Nelson: Craig Potton Publishing, 1996), p.63.
- ¹⁰ Hanson, Draft History of New Zealand SIGINT, Topic 5.
- ¹¹ *Ibid.*
- ¹² *Ibid.*
- ¹³ *Ibid.*
- ¹⁴ 'Report by Mr J.O.H. Burrough and [] on their visit to New Zealand in November 1954 in connection with Signal Intelligence', GCSB.
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- ²⁴ ANZ, R12455831, 'NZCSO [New Zealand Combined Signals Organisation] General', Part 1.
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- ²⁸ Hager, *Secret Power*, pp.66-67.
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- ⁴⁵ Hanson, Draft History of New Zealand SIGINT, Topic 7.
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⁵⁷ Richelson and Ball, p.320.

⁵⁸ Hanson, Draft History of New Zealand SIGINT, Topic 8: 'International Relations', GCSB.