

## Chapter 3

### Wartime Expansion

Concurrently with the development of the receiving station at Purewa a 2000 square foot transmitting station was built in Cornwall Park at a cost of just under \$20,000. At around this time Cornwall Park must have been a veritable hive of activity for in addition to the Naval transmitting station it was also the scene of one of the most rapid building projects in NZ history. A 1500 bed hospital begun on the 30<sup>th</sup> of October 1942, and despite a 10-day break for Christmas and New Year, was handed over on the 4<sup>th</sup> of February 1943 with the first 500 patients being admitted just four days later. In all 123 hospital buildings were constructed, covering some 367,00 square feet.

The initial establishment for receivers at Purewa was just two B28s and 2 U.S. National receivers which was not considered sufficient for operational requirements. To overcome the shortage an arrangement was made with the Naval Stores to loan four B28 receivers from dockyard stock and to interchange them at odd intervals to maintain efficiency. This arrangement led to the disposition of receivers at Purewa being five B28s, one each for 8470, 12705, 4235, the Noumea circuit on 6650 and Port Wave, (then 2940kHz) One of the U.S. National receivers was used for 355kHz, leaving two spare receivers, one a B28 and the other U.S. National. An interesting aside is that from its inception in 1942 Purewa had been using an American callsign, NWZ, on all its circuits.

As hostilities in the Pacific moved north of the equator financial and manning constraints made the NZ Army anxious to quit North Head but first a home had to be found for the receiving and transmitter control functions of the Port W/T. As a separate but related activity, developments at Waiouru meant the concentration of transmitters at Cornwall Park was no longer needed. As early as 1944 there were other developments that were about to cloud the Navy's search for a more permanent location for their Port Wireless station. In a report to the Minister of Defence, the Naval Secretary reported that the United States Commander, South Pacific had requested that "the existing communications facilities in Auckland hitherto manned by the United States Navy should be taken over by the Royal New Zealand Navy.

It was proposed that a transfer of Naval communications facilities from North Head to Purewa should take place at the same time as the Naval Officer in Charge Auckland and his staff moved into their new headquarters at Mechanics Bay on or about the 30<sup>th</sup> of November. In outlining the proposal to the Naval Officer in Charge Auckland the Naval Secretary reported that the acquisition of the establishment at Purewa will enable all naval W/T communications in Auckland to be centralised there and will enable the existing transmitting station in Cornwall Park to be closed down. Although the official target date for the completion of the transfer was 1<sup>st</sup> January 1945, the U.S. authorities had indicated as the RNZN operating base (at North Head) was to be taken out of commission, they were anxious to withdraw the U.S. personnel as soon as possible and to this end it is desirable that RNZN ratings should commence understudying their new duties early in November.

From the 6<sup>th</sup> of February, 1945, radio Purewa reverted to N.Z. control and began using the callsign ZLE [which had initially been the base callsign of its predecessor New Daventry in 1934] on all circuits, although NWZ did not completely disappear, being retained for the United States Joint Purchasing Board in Auckland. After the change in ownership (and

control) it is worth noting that the only communications equipment remaining after the departure of the U.S. forces were two CRC National receivers, two Model 17 Remington Rand typewriters, one Collier & Beale locally manufactured 500W transmitter and two 110V emergency power units. These latter two items had been installed at the American's request by the Public Works Department but were never operational at Purewa because their necessary 400V supply had not been provided. .

The Naval Secretary further reported that "Purewa W/T station also provided a convenient solution to the problem of local naval communications when the area's combined headquarters was transferred [from Mt Albert] to Mechanics Bay. By centralising these facilities at Purewa it will be possible to close down the auxiliary Port Wave at North Head and the existing W/T transmitting station at One Tree Hill [Cornwall Park] and thereby remove the restriction to public access to this scenic reserve hitherto in force.

The report concluded "The operation of a long distance W/T circuit by personnel of different nationality, custom and training represents one of the most difficult problems in communications. It is therefore a matter for satisfaction that the standard of efficiency of the Telegraphist branch of the Royal New Zealand Navy is such as to provide an early solution". But despite these glowing terms there were problems. The naval telegraphists may have been skilled Morse operators but few could type. Eventually, five operators who "have been well grounded in touch operation of teletypes were made available from Wellington Naval Radio. To assist in their assimilation it was requested "that arrangements be made for a Leading Telegraphist known to be a skilled operator be made available to cope with any sudden increases of traffic until the five operators have gained speed and confidence.

Despite these and other problems it was not long before the U.S. Commander reported to the Naval Officer in Charge Auckland that "Preparations completed for the transfer of Purewa W/T station to the Royal New Zealand Navy on December 15, 1944. A major difference that had apparently been completely overlooked was that while Cornwall Park had been a transmitting station, Purewa was primarily a receiving station. At this stage, the only transmitters at Purewa were the 500W Collier & Beale and a loan 89P borrowed from the Naval Stores in the Dockyard.

Faced with this shortfall, it was necessary to remove the five transmitters from Cornwall Park to Purewa. These were listed as being a SW138 for the Noumea circuit, an RNZN1 low frequency transmitter for 355kHz, an RNZN2 for 3232 and 2333kHz, a T1190 for 4875/6470/4235kHz and a 100 watt Collier & Beale for 2940kHz Port Wave.

Cornwall Park's types 57 and 59 were not being transferred to Purewa but were to be installed at the naval base for instructional purposes. They were identical to the main HF and LF transmitters fitted in Bellona and Black Prince. Unfortunately, it was not a belated recognition of the need for training equipment that lay behind this move. The real reason was because Purewa had been primarily a receiving station its existing 15KVA 400V 3-phase transformer was of insufficient power to feed either the 57 or 59. As there was not enough space in the small transmitter room the five other transmitters listed above were to be housed in a vacant dormitory in the accommodation block and the installation of a 30KVA 400V three phase supply at Purewa and to provide a 25-pair cable from the U.S. transmitting room to the dormitory, a distance of approximately 100 metres.. On completion of destoring

Cornwall Park it would become necessary to remove the “five 70 foot poles from Cornwall Park and erect them at Purewa to provide additional aerial facilities”.

The cost of removing and re-erecting the antennas was \$406.11 for which princely sum the Minister of Defence’s approval was necessary and duly received but no trace can be found of the cost of relocating the transmitters which must lead one to assume that this was an evolution carried out by ship’s or dockyard staff. Concurrently, the Port Wave station in the tunnel at North Head was brought out into the light and its operations and operators transferred to Purewa. The complement for Purewa W/T was at 1 CPOTel, 1RPO, 1PORMech or LRMech, 5 Ldg Tels, 22 Tels, 2 Cooks, 3 Abs and 2 Stokers. It was stressed that these figures included the 5 teletypewriter specialists from Wellington.

PEACE, the release of Reservists, Hostilities Only ratings and Wren Telegraphists from Waiouru created manning pressures that were not easily overcome.

As mentioned earlier, one of the technical challenges was that very little equipment remained at Purewa after the departure of the U.S. occupants. This shortage and manning problems meant plans for the closing of Purewa were set in train in November 1945. In July the Naval Officer in Charge Auckland was told “those telegraphists at Purewa W/T who operated the NXZ circuit and are expert in the use of the speed key are to be drafted to Waiouru W/T as soon as practicable.” As well as the staff it was decided that the SW138 HF transmitter from Cornwall Park, only recently installed at Purewa would be of greater value at Waiouru. An Army convoy of a QUAD, two GMC trucks and a pilot vehicle were borrowed to carry the 10 packing cases South. With the 10 cases were planks and a block-and-tackle which “were to be returned with the trucks” after the evolution had been completed.

The closing of Purewa brought to a close a frenzied period of wartime expansion that had seen the communications facilities grow from a wardrobe-sized office in an aged non-seagoing cruiser to a modern purpose-built activity on the northern slopes of Remuera.

In an amusing footnote, shortly before it’s closure Purewa had been visited by Philomel’s Commander-in-Command who penned the following note to a subordinate in Wellington:

Dear Sleeman [Lt-Cdr]

When I visited Purewa W/T we decided that something should be done to obtain payment for the stock growing fat and lazy on the 15 acres of lush grass which forms this area. I asked Lt-Cdr Hudson to enquire from the big firm of R & W Hellaby Ltd, whether they would see their wa to paying grazing fees. Evidently we have touched on a sore point as the land appears to held by them under leasehold and they have received no compensation for the loss of carrying capacity.

Their answer was complete and unanticipated. My best intention of trying to obtain an odd hundred pounds or so for the Exchequer fell on far stonier ground than the animals were feeding on.

Anyway, I got a good laugh.

John Elworthy

Purewa's closure meant that once again the Port Wireless station was an orphan. Temporary accommodation was made available in two of the green huts along Philomel's waterfront, where ship's staff, with dockyard assistance, were able to instal the ex-Purewa ex Naval-Stores-Loan 89P, a C&B 100W 4125 transmitter, a TCS12, an 86M, a B28 and a B29 together with a Hallicrafters HT8 and a TBS, about which more will be revealed later. A submission to the Minister of Defence outlined the background to the problem and concluded "a small wireless station is still essential for port duties but shifting back to the naval base will at once save the overheads of a separate establishment as well as the annual Purewa rent of \$500" "The attached plan for the addition of a top storey to the existing W/T workshop is considered the best solution. The estimate for the cost of this is \$2000 including Public Works Department supervision.

The submission went on to note that the site was particularly suitable for the new Auckland W/T station for the following reasons:-

- a. Technically, it is the only part of the Dockyard where it is possible to place radio apparatus clear of other electrical noises which interfere with its performance and at the same time find space for the necessary aerials.
- b. Power is already available.
- c. With the exception of instruction, all W/T activities will be centralised in one place under the direct supervision of the Port W/T officer which is most desirable.
- d. This will undoubtedly be a cheaper way of transferring the W/T activities at Auckland from Purewa to the Naval Dockyard than erecting a new building.
- e. In addition to the above advantages it will still be possible to effect a slight increase in the size of the W/T workshop.

The Honourable Minister is accordingly recommended to approve the expenditure of \$2000 for this purpose.

This time, the Honourable Minister did not approve.

But all was not lost. Floor space within the W/T workshop was at an absolute premium as the dozen or so launches pressed into service as Naval auxiliaries at the beginning of the war had to have their radio equipment removed before the craft were returned to their owners. At the Stanley Bay side of the Dockyard was an area known as the Boom Defence Store which was unused.

It was decided that the Boom Defence Storeroom area could provide the additional space needed for an expanded W/T workshop and by vacating the building inside the main gate allow the Port Wireless to return to it's original home. To avoid the indignity of having to seek fresh ministerial approval for the transfer the exchange was accomplished sing existing staff, at least one of whom, Petty Officer Radio Mechanic James Spence had been a boy Telegraphist at the original New Daventry.

With new entry training now taking place in HMNZS Tamaki on Motuihe Island the two former communications classrooms in the green sheds which had been pressed into service as a temporary home for Port Wireless were vacated and communications training moved

out of Black Prince and back into Philomel. Port Wireless have may have been back home, but with peace came procrastination.

As part of the post-war re-organisation, Port W/T had, by 1947 acquired a DC-powered TBS [60-80mHz A3] . Writing to the Navy Secretary in 1952, the Naval Officer in Charge Auckland wrote, "It was considered essential that this equipment be brought to an operational standard as early as possible." The request went on to say that doubt existed whether of the two types of Power Unit [Rectifier or A.C. Generator] are available from United Kingdom sources and, in any event the delivery date on an Admiralty demand lodged now would be uncertain and even if they were forthcoming unacceptable delay would result... We are left to wonder why an interval of five years had to pass before Naval Board approval was sought to have the Dockyard manufacture the necessary a.c. power supply for the trifling sum of \$160.

Unfortunately, Port Wireless's problems were not over, By 1955, increasing needs for training facilities were creating demands within the barracks that could not be accommodated in the two green sheds. In 1957, in a lengthy submission, the Commodore Auckland asked the Naval Secretary to "Be pleased to lay before the Board the following reasons for the proposed re-organisation of Port Communications and Communications Training in Auckland:

- (i) To carry out necessary alterations and renovations to 95 Calliope Rd to accommodate the Communications Training School and the Port W/T Transmitters.
- (ii) To transfer the Port W/T Station receivers, Port V/S Tower and Port Communications Centre to 2 Alexander Street.
- (iii) To provide a signal mast in the grounds of 2 Alexander Street for a new Port V/S.
- (iv) To provide cable connections between 2 Alexander Street and 95 Calliope Road for control of the Port W/T Transmitters
- (v) Install emergency powerplant.

The Commodore pointed out that the Port W/T station housed both receivers and transmitters, a state of affairs not considered conducive to full efficiency under operational conditions due to interference.

In addition, the Port Visual Signalling Tower was also very limited in its use due to lack of height and Dockyard constructions. A mast and the ancillary V/S equipment at 2 Alexander Street would give a wide coverage over the Naval Base and inner harbour area

The two green huts used for communications training were now urgently required for other purposes, leaving only the use of space in 'Black Prince'.

Commodore Davis-Goff felt this widely scattered organisation tended to reduce efficiency and made adequate supervision extremely difficult for the Officer-in-Charge of the Communications Training School who was also his staff Port Communications Officer.

The Naval Board decided that they preferred the Signal Tower where it was but approved the remaining proposals. Port Wireless left its main gate location and moved up the hill to Calliope Road. Sadly, this was to be just one more temporary berth for within three years covetous eyes were being cast on Calliope Road...

In a major evolution in the early 60's, the Cookery School was moved from the Dockyard to North Head.

The Electrical School was transferred from the green huts to the summit of North Head.

The Communications Training School was evicted from 95 Calliope Road and took up residence on North Head.

Port Wireless returned, not to the tunnels but at least back to North Head.

Even though the transmitters did finish up in one of the tunnels it was not enough to permanently anchor it, for it was not too long before North Head was declared out of bounds and permanently cleared of all Naval activity with the exception of the Hydrographic Department.

So Port Wireless returned to Philomel from where it had all begun.

So, in the field of New Zealand Naval Radio, the more things changed, the more they stayed the same..