

Quartz Hill ZL6QH – 10 Years On

The Wellington Amateur Radio Club (WARC) first gained access to the large, ex-broadcasting receiving station site at Quartz Hill, Makara, in January 1997. Since then, a small dedicated group composed of club members and other interested amateurs, have laboured to build a large array of antennas for use on all amateur bands between 135 kHz and 30 MHz [refer to Figure 4]. Over this time the station has built up a reputation as one of the leading amateur radio facilities in the Southern Hemisphere. The project has been a source of challenge and enjoyment for everyone involved - whether they have an interest in contest operating, working DX, experimenting with antennas, building and maintaining the station infrastructure, or just being outside in the rugged Quartz Hill coastal environment.



Figure 1: View of the ZL6QH station on a fine day – looking northeast

The club leased the Quartz Hill site from ECNZ (now Meridian Energy Ltd) on the clear understanding that it could be required for a commercial wind farm for electricity generation wind farm some time in the future. Ten years on, that time has finally arrived. Site works for the construction of the new wind farm have started and it is estimated that the project will be completed in 2009. Our existing antenna infrastructure was dismantled in September 2007 to make way for the civil works.

We are hopeful that it will be possible to build new antenna infrastructure and once again operate an amateur station at Quartz Hill after the wind farm work is completed. Meridian Energy is supportive of the club being able to continue using the building and associated land for this purpose. We have been advised that “wind turbines have first priority, but antennas may be fitted in around the turbines”. The good news is that there is an elevated flat area of land near the existing radio station building that is not being used for turbines and can potentially be used for HF antennas.

We are considering a complete re-engineering of the antenna infrastructure for the new station, as there will be less space for the long wire rhombic and vee beam antennas that we have used in the past. The new infrastructure will be designed specifically for modern amateur operations, capitalising on the experience gained over the past ten years. The club has limited financial resources, so we are hopeful that a combination of donations of surplus resources from industry, practical support from Meridian Energy, and some clever innovation, will allow us to build a bigger and better array of antennas for the future.



Figure 2: ZL1AZE working on repairs to a set of vee beam antennas

A critical issue is the technical compatibility of amateur radio operations with the RF noise that is generated by the wind farm. Discussions with other amateurs in Europe indicate that radio interference is not normally an issue in or around wind farms, but we will not know for sure until more substantive information is available about the level of noise that is likely to be produced by the specific wind farm technology deployed at Quartz Hill. We need certainty about this issue before making any commitment to building new infrastructure.

On the operational side, the Quartz Hill station (ZL6QH) has now logged 172,000 QSOs and replied to 34,000 QSL card requests from other amateurs around the world, possibly the largest numbers recorded by any NZ amateur radio station. The station has also been used to post some of the highest scores and set new records from Oceania in most of the major international DX contests. It has provided many DX stations with their first ZL contact on the HF bands, especially on the more difficult bands like 160M. The site has also been used to set a world record distance for a two-way contact between amateur Low Frequency stations.

The club has hosted many visiting amateur operators from overseas, who have often travelled to Wellington, New Zealand, with the express purpose of visiting the Quartz Hill station. Csaba HA3LN, A recent visitor from Europe and operator at ZL6QH in the 2007 CQ WPX CW DX contest, made the following comment "Now I understand the big signals in Europe from ZL6QH. This is the station which you can put into the log very easily, even if you only have small wires and 100W on the low bands. The QTH is located on the top of Quartz Hill with a clear (sea) shot everywhere and most importantly... there's no noise. The antennas are superb and worked great. What a wonderful place!"



**Figure 3: ZL6QH Multi-Multi operation in 2006 CQWW SSB DX Contest
(3 of 5 operating positions visible)**

Clearly there are some big challenges ahead, as the club enters its second decade of activity at ZL6QH, but we do hope to be back on the air again soon and continue the tradition (since 1944) of using Quartz Hill for radio communications. Updates about our future plans will be posted on the ZL6QH web site at www.zl6qh.com.

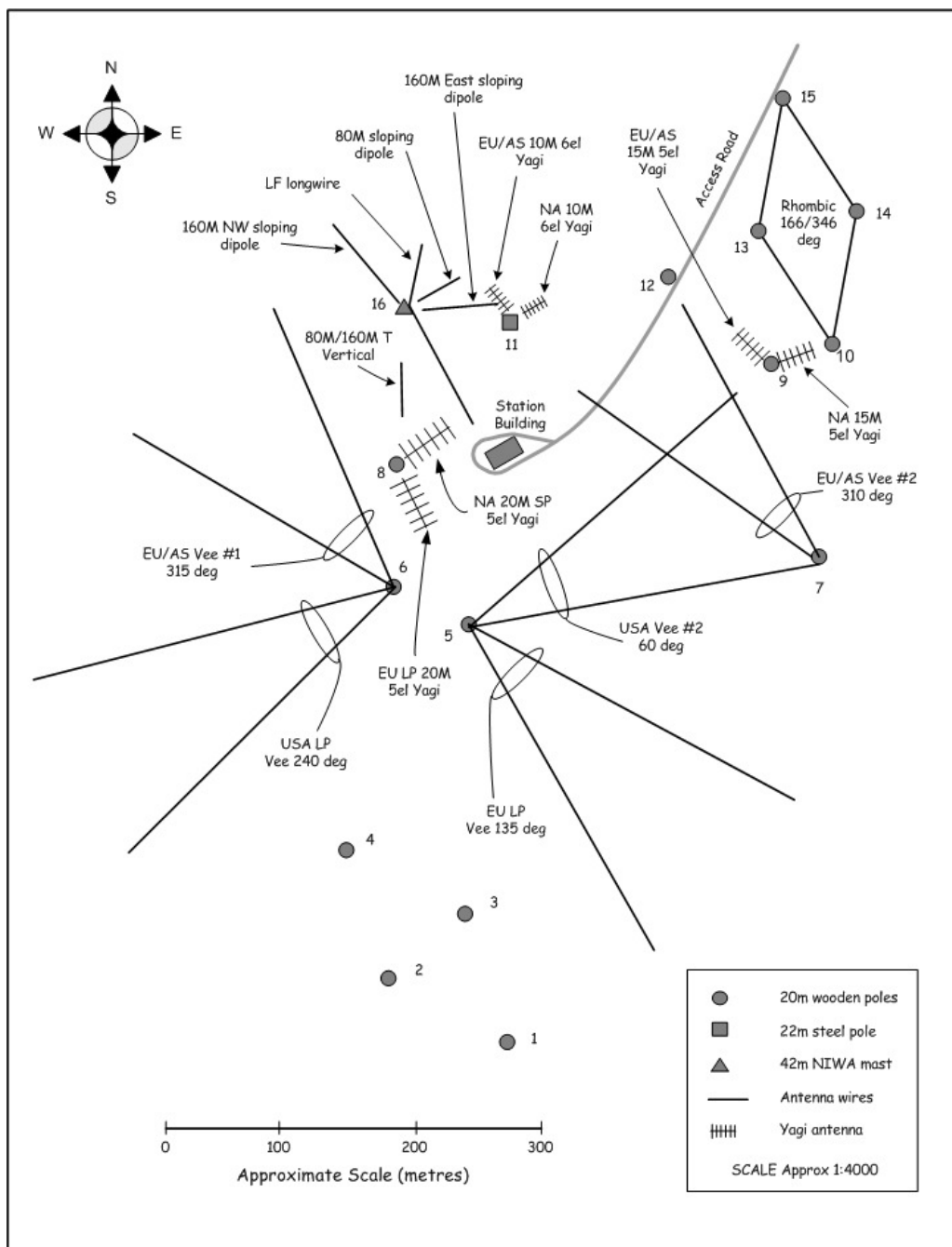


Figure 4: Layout of the ZL6QH antenna farm prior to it being dismantled in September 2007

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