



Electromagnetic Radiation Certificate **for** **Waiatarua Transmission Site**

Current Situation

Kordia's existing transmission site at Waiatarua transmits analogue and digital TV, microwave links and miscellaneous other radio communications. This EMR certificate outlines the current and future possible electromagnetic radiation (EMR) levels around Kordia's site at Waiatarua to support Kordia's application for site designation.

Site Description

The site contains a large lattice tower and a smaller lattice tower with several equipment buildings. The compound itself is fenced off, and is not considered publicly accessible. The closest publicly accessible areas are neighbouring properties, Scenic Drive, Brabant Rd, and the site entrance on Scenic Drive.

Relevant Regulation

Regulation 4 of *Resource Management (National Environmental Standards for Telecommunications Facilities) Regulations 2008* (NES) provides a standard for the maximum acceptable level of public exposure to electromagnetic radio frequency fields, and states that a telecommunication facility is a permitted activity as far as radiofrequency fields are concerned if it is operated in accordance with *NZS 2772: Part 1:1999 Radiofrequency Part 1 – Maximum Exposure Levels – 3 kHz to 300 GHz*. The limits in *NZS 2772: Part 1:1999* vary with frequency, however, for the services at Waiatarua, a conservative limit of $200 \mu\text{W}/\text{cm}^2$ is appropriate.

Kordia's transmission site is planned and operated in accordance with *NZS 2772:Part 1:1999*, including compliance with clause 10(d).

Existing EMR Levels

An independent EMR survey was undertaken in the general vicinity of the Waiatarua site by Trevor Woods on 24 September 2009. The maximum EMR level measured in publicly accessible areas around the site at two metres above ground level was $22 \mu\text{W}/\text{cm}^2$ at the entrance to Brabant Road nearby (11% of the $200 \mu\text{W}/\text{cm}^2$ general public limit), representing the cumulative effect of all existing services on site.

In May 2010 new services were added at Waiatarua, and the maximum EMR level was estimated at 13.7% of the Standard. Since May 2010 some further services have been added, and numerous high power

broadcast services have been removed. The net result is that the current maximum EMR levels will be less than 13.7% of the Standard estimated in May 2010.

There are no other radio sites nearby that contribute any significant EMR.

EMR Levels From Future Services

Kordia may wish to establish additional services at Waiatarua in the future, and their EMR contribution will depend on parameters such as transmission power, antenna configuration and location. However, current trends indicate that future services on site will only have a minor effect on EMR, and total EMR levels are very unlikely to ever reach 25% of the New Zealand Standard. It is important to note that in December 2013 all analogue television services transmitting from Waiatarua will be switched off – the removal of these high power transmitters will result in a significant reduction in EMR levels around the Waiatarua site.

Kordia will ensure that the site always operates in accordance with the limits of the New Zealand Standard applying at the time.



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