



Electromagnetic Radiation Certificate **for** **Kaipara Hills Transmission Site**

Current Situation

Kordia's existing transmission site at Kaipara Hills transmits microwave link services only. This electromagnetic radiation (EMR) certificate outlines the current and future possible EMR levels around Kordia's site at Kaipara Hills to support Kordia's application for site designation.

Site Description

The site contains a single monopole and equipment building on top of a rural ridge, surrounded by grassland and trees. While the compound itself is fenced off, and is not considered publicly accessible, areas immediately around the site are publicly accessible.

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 existing services at Kaipara Hills, a limit of 1,000 $\mu\text{W}/\text{cm}^2$ 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

All of the services at the Kaipara Hills site are microwave dishes that typically exhibit very low EMR levels at ground level. The EMR level from all existing services at 2 metres above ground level in publicly accessible areas is calculated to be a maximum of 10 $\mu\text{W}/\text{cm}^2$ (1% of the NZ Standard). This estimate is conservative, and actual EMR levels, if measured, will be lower.

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

A handwritten signature in blue ink, appearing to read 'Adam Tommy', with a stylized flourish at the end.

Adam Tommy, CPEng
Broadcast Network Architect
Kordia
19 June 2012