



COMMERCE COMMISSION

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29 October 2008

To all parties to the standard terms determination

Mobile Co-location STD: Further Consultation

Following the recent Mobile Co-location Conference, the Commission wishes to invite further comment from interested parties on possible methods for distinguishing between “urban” and “non-urban” areas as part of setting interference management thresholds.

Distinguishing between “Urban” and “Non-urban” areas

During the discussion on the definition of “Unacceptable Performance Degradation” at the conference, the possibility of setting different thresholds for link budget degradation in “urban” and “non-urban” areas was raised. The Commission is currently exploring the implications of this proposal.

As an overarching principle, the Commission would generally expect that “urban” areas would correspond to those regions in which cells provide significant overlapping coverage, whilst “non-urban” areas would not. The intention of any such distinction would be that, when compared to a single nationwide threshold, an urban/non-urban approach would more accurately reflect the impact of link budget degradation on the end user’s experience.

The Commission has considered a number of approaches to assessing the “urban”/“non-urban” distinction. These include:

- use of Statistics New Zealand (SNZ) classifications of urban/non-urban areas;
- use of clutter data; and
- a determination based on the density of cell sites in a particular geographic area (in order to approximate whether that region would have sufficient overlapping coverage).

These three approaches are outlined in further detail below.

SNZ classifications of urban/non-urban areas

This approach would involve applying SNZ urban/non-urban classifications in a similar manner to that used by the Commission in the Unbundled Copper Local Loop (UCLL)

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standard terms determination¹. This would require accepting a SNZ-determined definition of “urban” and “non-urban”.

For example, those areas classified by SNZ as “main urban areas” could be classed as “urban” areas for the purposes of the Mobile Co-location STD. Those Relevant Facilities that lie within main urban areas would then be subject to a higher interference threshold on the basis that there is likely to be overlapping coverage in that area.

The Commission considers that this approach would have had a high degree of transparency, as it would rely entirely on SNZ’s determination of urban and non-urban areas. However, in itself it is unlikely that determining urban and non-urban areas in this manner would necessarily reflect the degree of coverage observed in a particular area. For example, an area may be classified as “a main urban area” by SNZ but have no coverage – this would not be detected by the simple SNZ characterisation of urban/non-urban.

Clutter data

Parties at the conference suggested that the Commission may be able to use clutter data in order to assess whether a particular cell site should be classified as “urban” or “non-urban”. This data would be able to be used in any modelling that would predict the coverage from an individual transmission site.

The Commission notes that clutter data generally provides an important element of any substantive analysis of coverage, and that its inclusion would thus inform a comprehensive analysis of radio coverage. However, in order to conduct the “urban”/“non-urban” classification, the Commission would need to take each individual cell site and model its coverage using the clutter data. The Commission considers that this level of detail may not be required in order to make the urban/non-urban distinction.

Alternatively, the Commission could accept a particular clutter strata and assert that any site with a greater clutter was urban (with the remainder being non-urban). However, this approach also may not reflect the degree of overlapping coverage observed in a particular area.

Determination based on the density of cell sites

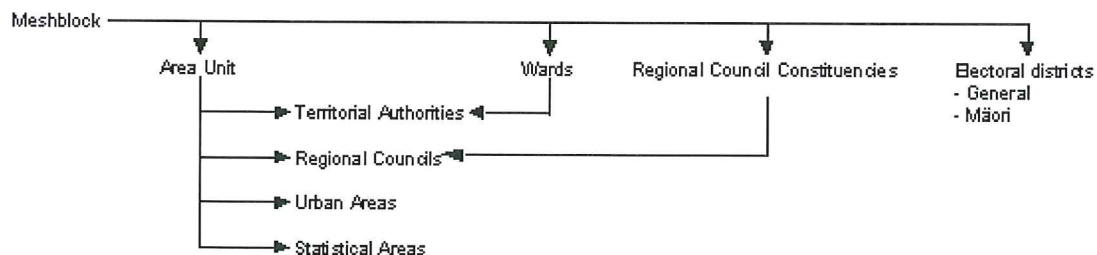
Another option involves using SNZ boundaries to split the country up into a number of geographic areas and then, using information on the locations of cell sites held in the MED’s “Spectrum Search Lite Database”², ascertaining the likely degree of overlapping coverage in each area. Each geographic area could then be classified as either “urban” or “non-urban” based on the likely coverage density in that area.

SNZ defines a range of geographic boundaries. The following diagram illustrates the geographic hierarchy of the SNZ areas.³

¹ Commerce Commission, *Decision No. 609: Standard Terms Determination for the designated service Telecom’s unbundled copper local loop network*, 7 November 2007, p 105 – 111.

² <http://www.rsm.govt.nz/cms/resource-library/spectrum-search-lite>

³ <http://www.stats.govt.nz/statistics-by-area/geography-mapping/default.htm>



If the approach outlined above was to be adopted, the Commission's preliminary view is that "wards" would form the most appropriate geographic boundaries in order to make the distinction between urban and non-urban areas.

The Commission considers that this method is relatively simple while remaining data driven. It involves ranking all the areas from high to low density and then determining the threshold between overlapping and non-overlapping coverage. However, this would only provide an approximation of the likelihood of overlapping coverage in a given area.

Submissions

The Commission is seeking parties' views on the issue set out in this letter. The Commission invites parties to submit in writing on this issue by 5pm on Friday 7 November 2008. Submissions should be forwarded to Matthew Bailey at Matthew.Bailey@comcom.govt.nz.

Yours sincerely

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