



'yes'
OPTUS

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By facsimile: (03) 9663 3699

Dear Robert

MOBILE TERMINATION COST MODEL: BUSY HOUR STATISTICS

I refer to your letter of 3 April 2007 requesting Optus' cooperation in providing statistics to inform the busy hour parameter in the WIK Cost Model.

While Optus continues to have reservations about the Commission's consultation process with regard to the WIK model, Optus is providing the information sought. The statistics sought by the Commission are provided in the confidential Annex to this letter. This letter describes the information provided and notes issues relating to the use of the information. It also notes Optus' concerns about specific aspects of the data requested.

Confidentiality and use of information

On accepting the confidential Annex to this letter, the ACCC acknowledges that the information contained therein is confidential information belonging to Optus and must only be used by the ACCC for the purpose of identifying any significant and country-specific trends that may need to be taken into consideration when parameterising the WIK Model.

The information Annexed may not be used for any other purpose unless the express written consent of Optus has been obtained and will not be disclosed to any person, firm, corporation, association, department or any other entity for any reason or any purpose whatsoever, except for the purpose identified above.

Moreover the ACCC acknowledges that the information will only be aggregated with information provided by other entities for the same purpose so it cannot be identified as Optus' specific information and will not be identified (or be identifiable) as Optus' information in any disclosure, including in published reports.



Optus requests that the Annex be returned to Optus after it has been used for the purpose identified above.

Objective of the request

I understand that the Commission intends to use this information in an effort to ensure the WIK model accurately reflects any country-specific characteristics of the busy hour in Australia. Notwithstanding this objective, Optus is concerned that some features of the WIK model will not allow this to be achieved. In particular, the use of network-wide measures such as average busy hour traffic per customer in network dimensioning results in a misleading and excessively smooth picture of the peakiness of the network. In addition, certain algorithms in the model make use of the data provided in a way that will produce incorrect results. These issues are discussed further below.

Optus would also like to note the incompleteness of the request, which seeks information on a limited number of parameters relating to the busy hour only. This is only one aspect of the model that would need to incorporate country-specific information to determine accurately the costs of a mobile network in Australia.

For example, the model would need to take into account local equipment and labour costs, local site-sharing and working capital practises, local data for radio propagation modelling, local restrictions on base station deployment including planning requirements, Australia-specific drivers of base station deployment, terrain features, availability of infrastructure and spectrum, traffic volumes and mix. I refer you to Optus' submission for further discussion of the omitted parameters.

Consultation on the WIK model

Optus wishes to register its continuing concern with the lack of adequate access to the WIK model. While Optus had the opportunity to examine the model from 16 February 2007 to 16 March 2007, Optus considers that the duration of this access period was insufficient given the many complex issues such a model raises. Further, the extent of access was insufficient since only a limited selection of model inputs were able to be viewed and adjusted, and many aspects of the model including the underlying algorithms remained inaccessible.

Given the likely central role of the WIK model in the Commission's assessment of the reasonableness of mobile operators' MTAS charges, Optus considers that it would be appropriate and procedurally fair for mobile operators to have unfettered access to the model on a permanent basis.

Measured proportion of daily traffic in the busy hour

Optus has measured the proportion of daily traffic in the busy hour for the median cell in Optus' GSM network as **Confidential (1)**. This data was obtained through calculating the busy hour traffic ratio on a cell-by-cell basis. The data was sourced from a single day snapshot of the network for Friday 2 March 2007. This day was chosen because Fridays

are generally the busiest day in the Optus network, and it represented a typical work day (i.e. was not during a public holiday or in a school holiday period).

In terms of the distribution of busy hour traffic it is evident from this statistic that half of the cells in the network are 'peakier' than this in terms of busy hour traffic demand, and half are less peaky. Cells which are peakier may require additional investment in capacity solutions or additional optimisation and performance management in order to balance the traffic load with neighbouring sites. Cells which are less peaky are unlikely to require additional investment for capacity or specific performance management.

Optus has concerns about the use of any average measure of the proportion of daily traffic in the busy hour to dimension the network. This is because less peaky cells are *not* likely to require a *lower* level of capacity investment compared to the median cell (since the minimum level of investment required for each mobile network cell is likely to be sufficient for median traffic demand). This means that the greater investment requirements in peakier cells will not be 'balanced out' by those in less peaky cells. Consequently, using a median or any average figure to dimension the network would result in an under-provisioned network in which half the cells would have insufficient capacity to manage busy hour traffic demand.

Calibration of the model outputs against the actual network of mobile network operators in Australia would be an appropriate means to addressing these issues.

Number of days per year on which the typical busy hour is relevant

In response to an Optus request for clarification, Commission staff have advised that "the 'average number of days per year on which the typical BH is relevant' is the number of typical working days in the year. As outlined in the WIK Report this is expected to be about 50 weeks multiplied by 5 days or approximately 250." Optus has two observations on this request.

First, it does not appear to be an issue on which Optus can provide practical guidance from its own network provisioning experience. While Optus has information on busy hour parameters such as proportion of traffic occurring in the busy hour or average traffic per customer, it does not use these figures in network dimensioning in the same way as the WIK model does. Consequently Optus has no special expertise in calculating the number of typical working days in the year.

Second, the 250 day estimate may have been calculated by subtracting ten public holidays from a 52 week year. If this is the case, then the estimate appears likely to err in treating all working days alike. For example, the telecommunications network is unlikely to be used with the same intensity on a working day in the typical summer holiday period compared to a more typical working day in some other period during the year. One solution would be to reduce the 250 day estimate to take account of typical holiday periods. It does not seem constructive for Optus to suggest a particular number of days at this stage,

at least in the absence of clearer instructions about the meaning, purpose and use of the information sought by the Commission.

Average traffic per customer

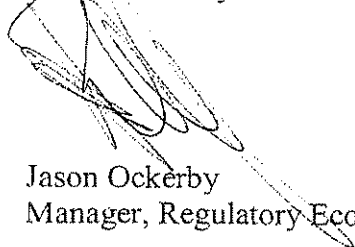
In response to an Optus request for clarification, Commission staff have advised that "the 'average traffic per customer during the BH' relates to active customers only. That is, it should not include those customers who have SIMs but never make calls, just those customers who have SIMs and might make a call." Optus counts customer provisioned and activated in the HLR as active customer (ie, "have a SIM and might make a call"). All postpaid customers automatically fall into this category. Prepaid customers who don't make any calls for a defined period of time (usually many months) are eventually removed from the HLR, however until they are removed, they are still treated as active. Hence the number of "customers who have SIMs but never make calls" under the Optus definition is zero.

In addition to this note, Optus is concerned that the use of network-wide measures such as the average traffic per customer during the busy hour in network dimensioning is likely to result in a misleading and excessively smooth picture of the peakiness of the network. For example, Optus is able to advise the Commission that the average traffic per customer during the busy hour, measured at a single hour on a network-wide basis, is **Confidential (2)** milli Erlang. However the average traffic per customer, measured at each GSM cell during the busy hour for that particular cell, is **Confidential (3)** milli Erlang. This substantial difference illustrates that using network-wide measures to dimension a mobile network would inevitably mask investment required at individual cell sites.

Optus would also note its unease over the possibility that the data provided may not be used in a way that will produce correct results. For example, it appears from Optus' brief examination of the WIK model, that changing the average traffic per customer parameter will automatically result in a change to the total annual volume of traffic. This is a potentially misleading result since these parameters are not linked by such a simple formula in the real world. Nevertheless, this heuristic appears to be hardwired into the model.

If you wish to discuss any matters discussed in this letter please call me on 02 9342 7036.

Yours, sincerely



Jason Ockerby
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