VODAFONE NEW ZEALAND LIMITED

**CROSS SUBMISSION
TO THE NEW ZEALAND COMMERCE COMMISSION**

On Submissions to the:

**PROCESS PAPER AND DRAFT PRICING REVIEW
DETERMINATIONS FOR CHORUS' UNBUNDLED COPPER LOCAL
LOOP AND UNBUNDLED BITSTREAM ACCESS SERVICES**

concerning only

TSO BOUNDARY CONSIDERATIONS

Public version

1 April 2015

Executive Summary

(i)   This cross submission concerns solely matters relating to TSO boundary considerations, and should be read alongside Vodafone's *Cross Submission on Submissions to the Process Paper and Draft Pricing Review Determinations for Chorus' Unbundled Copper Local Loop and Unbundled Bitstream Access Services* dated 20 March 2015 (**Vodafone's Main Cross Submission**).

(ii)   As stated in our February Submission, we believe the Commission should consider all connections a HEO would find economic to serve, today and throughout the regulatory period.

(iii)   Chorus raises concerns about the use of the Corelogic database, and yet Chorus' own SAM-ID dataset - used to assess the validity of the Corelogic dataset

- is incomplete;

- does not represent the TSO area;

- includes inactive connections;

- includes connections that are in fact served by CMAR; and

- includes non-existent connections.

(iv)   It may be, as Chorus argues, that 39 of the 46 exchanges are outside the TSO. However, the relevant costs of these exchanges have been properly treated: there is no evidence of ignoring relevant capex; or double counting relevant assets.

(v)   Contrary to Chorus' concern, costs related to 10,000km of route length are not excluded from TERA's model: the assumption is that such costs have been covered by third parties. Maintenance costs for these segments are appropriately included within the UCLL calculation.

(vi)   Our 20 March cross submission presented 48 recommendations. This cross submission presents the following additional recommendations:

Section	Recommendations	
L TSO Boundary	R49	Disregard the SAM-ID dataset provided by Chorus.
	R50	Make available the location information file that was used in its 2001 TSO modelling. Provide further details on its own (or TERA's) network access modelling process so that these issues can be properly consulted on. In particular, the Commission must make clear how it developed and compiled its TSO polygons.

A   Introduction

A1.1   Vodafone welcomes the opportunity to comment on the submissions made to the Commission's draft UBA and UCLL price determinations and accompanying reports released on 2 December 2014, on matters relating geo-spatial modelling. We appreciate the Commission's willingness to provide us with an extension of time to enable us to engage properly with relevant information and to comment meaningfully on these matters.

A1.2   This cross submission should be read alongside:

(a)   Vodafone's Main Cross Submission.

(b)   expert reports on TSO boundary issues prepared by WIK and NWS (**WIK TSO Cross Submission** and **NWS TSO Cross Submission**).

A1.3   This submission does not contain any confidential information. No confidential version of this submission is provided.

Documents referenced

A1.4   This cross submission references a subset of documents referred to in Vodafone's Main Cross Submission:

(a)   The Commission's Draft pricing review determination for Chorus' unbundled copper local loop service (**Draft UCLL Determination**);

(b)   The Commission's Draft pricing review determination for Chorus' unbundled bitstream access service (**Draft UBA Determination**);

(c)   Analysys Mason's models commissioned by Chorus and the **Chorus UCLL TSLRIC user guide** and **Chorus UBA TSLRIC user guide** and these documents were also addressed in submissions.

(d)   Chorus' submission on draft determinations for UBA and UCLL services (**Chorus February Submission**);

(e)   Analysys Mason's report on behalf of Chorus for UBA and UCLL services draft determinations (**Analysys Mason February Submission**);

(f)   Our own submission (**Vodafone February Submission**).

A1.5   There is no confidential version of this cross submission.

B   The TSO boundary

B1.1   The Commission's approach to identifying those buildings that a hypothetical efficient operator (**HEO**) would serve has been to adopt an area consistent with the boundaries defined under the December 2001 total service obligation (**TSO**).[1]

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[1] Draft UCLL Determination.

B1.2   As stated in Section G of the Vodafone February Submission, we believe the Commission should consider all connections a HEO would find economic to serve, today and throughout the regulatory period:

> *The use of the 2001 TSO network as a starting point seems overly simplistic. Given the rapid changes in technology, we believe it would be logical for the Commission to count all demand connections that a HEO would find economical to serve. This would include both new connections within the TSO boundary, and beyond: with the use of FWA in more remote areas, it is likely that the economically served footprint would in fact be considerably larger than the 'TSO-derived' footprint.*

B1.3   The Commission has used Corelogic's dataset to identify the location of buildings. The Vodafone February Submission included the following high level concern:

> *The Commission's starting point for demand is the CoreLogic database, used to estimate the location of buildings. We query why the Commission has used this database, rather than information on the location of actual fixed line connections, which would be data Chorus (and other fixed operators such as the HFCs) must be able to provide.*

B1.4   We retain the concerns raised in the rest of Section G of that submission.

B1.5   Chorus has claimed that there are material issues arising from the Commission's use of the Corelogic dataset. Chorus has also finally shared its own 'SAM-ID' database of building locations, which appears to have been recently located, and updated.

B1.6   NWS has undertaken a detailed analysis of:

(a)   the TSO footprint definition;

(b)   exchanges that may be outside TSO areas; and

(c)   overlapping TSO polygons.

B1.7   WIK has also raised concerns regarding Chorus' SAM-ID database and Chorus' and Analysys Mason's arguments on TSO boundaries.

B1.8   This cross submission provides:

(a)   an overview of NWS' and WIK's cross submissions.

(b)   feedback on submissions made on TSO boundary issues and highlights issues arising since we have been able to consider Chorus' recently released locational database.

TSO footprint definition

B1.9   Chorus claims that the Commission's polygons do not include significant numbers of end users who were in fact connected in December 2001, and asserts that 50 per cent of end user' premises locations are incorrect, with 20 percent listed as over 1km from their true location.

B1.10   NWS has assessed Chorus' claims and raises the concerns described below:[2]

(a)   **Chorus' dataset is incomplete -** Analysys Mason confirms that of 1.82 million customers in the Chorus database, 1.58 million were associated with a geographical

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[2] NWS TSO Cross Submission s 2.

coordinate. This means 240,000 end-users (within Chorus' database) have been excluded from the analysis.

Furthermore, WIK raises similar concerns regarding missing buildings:[3]

> *From our point of view it makes no sense to undertake analysis with incomplete datasets and then claim for 25,776 km missing road length, as Analysys Mason has done.*

(b) **Chorus' dataset does not represent the TSO area -** It is not possible to determine whether the database used by Chorus is in fact consistent with the database used for the Commission's TSO modelling. NWS has identified that many connections Chorus claims should be included within TSO polygons are currently non-residential locations.

(c) **Chorus' dataset includes inactive connections -** NWS demonstrates that many of the premises that Chorus claims should be included within the TSO areas do not in fact receive broadband services. Therefore we cannot be satisfied that these locations are not inactive connections.

(d) **Chorus' dataset is inflated by including connections that use Multi Access Radio (MAR) -** Connections that Chorus claims should be included within the TSO area are in fact served by customer multi-access radio (CMAR). NWS estimate this issue to be relevant to in excess of 6700 of Chorus' connections.

(e) **Chorus' dataset includes locations that are non-existent -** Chorus' database claims the existence of locations that NWS has identified as not in fact existing: no buildings are on the sites in question.

B1.11 We agree with NWS' conclusion that Chorus' geo-coding process contains flaws. Chorus' process for defining TSO boundaries cannot be relied upon by the Commission.

Exchanges outside TSO areas

B1.12 Analysys Mason claims that 46 exchange locations are outside of the TSO polygons and as such the Commission's TSO boundaries are incorrect.

B1.13 NWS has undertaken a GIS mapping exercise on the location of the exchanges identified by Analysys Mason[4], and has found that seven are in fact within the TSO polygons.

B1.14 Moreover, it is practically feasible that an exchange might be outside a TSO polygon whilst customers connected to that exchange are inside the TSO polygon. To the extent that this is so, Analysys Mason's claims are too generalised.

B1.15 NWS has examined Analysys Mason's claim that road length calculations are underestimated by the Commission and find this claim to be baseless. Where an exchange lies outside a TSO polygon this does not mean the relevant capex associated with the exchange is also excluded from the model.

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[3] WIK TSO Cross Submission s 1.3

[4] NWS TSO Cross Submission s 3.

Overlapping TSO polygons

B1.16 Analysys Mason raises concerns over overlapping TSO polygons. NWS agrees that overlapping doesoccur,[5] but questions why this is a concern. Where TSO polygons overlap there is no double counting of assets because the TERA access network model counts each network access related asset once.

Modelling concerns

B1.17 NWS raises two concerns related to TERA's geospatial modelling:

(a) some buildings do not appear to be allocated to the closest road section; and

(b) some buildings appear to be measured to the furthest end of the road segment.

B1.18 These errors would lead to an overstatement of capex.

B1.19 WIK mention that they have been unable to consider Chorus' concerns regarding an underestimation of trench length in the model.[6]

B1.20 The Commission must provide greater transparency regarding its own (or TERA's) geo-coding of the model so that these matters can be considered further within its decision making process – and subject to effective consultation enabling all parties' informed comment on the Commission's approach.

C   Capital costs

C1.1 WIK raises concerns in respect of Chorus' submission on treatment of capital contributions in TERA's model.[7] Chorus claims that TERA's modelling results in TSO islands and unconnected customers. This is a fundamental misunderstanding of how TERA has considered (external) capital contributions. Contrary to Chorus' concern, costs related to 10,000km of route length are not excluded from TERA's model: the assumption within the model is that such costs have been covered by third parties. Maintenance costs for these segments is - appropriately - included within the UCLL calculation.

D   Conclusion

D1.1 We support the questions raised by NWS' regarding the validity of Chorus and Analysys Mason's submissions on appropriate TSO polygons, namely that the analysis supporting these submissions:

(a) is based on an inappropriate TSO boundary definition (as it includes non-residential services);

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[5] NWS TSO Cross Submission s 4.

[7] WIK TSO Cross Submission.

(b)   relies on an incomplete dataset; and

(c)   includes potentially inactive connections, CMAR connections, and non-existent locations.

D1.2   We support NWS' recommendation that the Commission should disregard the new dataset provided by Chorus.

D1.3   In addition, we request that the Commission:

(a)   Disclose to all parties the location information file that was used in its 2001 TSO modelling.

(b)   Provide further details on its own (or TERA's) network access modelling process so that these issues can be properly consulted on (including with reference to 2001 TSO modelling information).

(c)   In particular, make clear how it developed and compiled its TSO polygons.

Recommendation 49	Disregard the SAM-ID dataset provided by Chorus.
Recommendation 50	Make available the location information file that was used in its 2001 TSO modelling. Provide further details on its own (or TERA's) network access modelling process so that these issues can be properly consulted on. In particular, the Commission must make clear how it developed and compiled its TSO polygons.