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Public version

Cross-submission for Chorus in response to  
Draft Pricing Review Determinations for Chorus' Unbundled  
Copper Local Loop and Unbundled Bitstream Access Services  
(2 July 2015)



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## CASE STUDY

### THE HEO'S BUSINESS CASE (BASED ON COMMERCE COMMISSION'S TSLRIC COST MODELLING)

#### Proposal

HEO Co. has been asked to be New Zealand's wholesale telecommunications infrastructure operator. HEO Co. will need to build a nationwide network, using modern technology, capable of delivering UCLL, UCLFS and UBA services to all end-users who receive those services today.

#### Key requirements

The network must be capable of delivering services and be provided on regulated terms.

#### Financial analysis

		<b>Underlying Assumptions</b>
<b>Cost of network*</b>	<b>\$6.6 bn</b>	Assumed trenching costs are 50% of actual costs.  Excludes the cost of 20% of lines (assumes costs levied on end-users upfront, even though regulation prohibits upfront recovery from existing customers).  Excludes the cost of laterals (the network between the street and the property boundary, needed to make the phones ring).  Includes fixed wireless, even though fixed wireless cannot be unbundled so cannot deliver the UCLL or UCLFS service.
<b>Operating costs</b>	<b>\$240 m p.a.</b>	Based on 40% reduction on actual operating costs, even though TERA recommended a 17% reduction when moving from historic copper to new point-to-point fibre.
<b>Credit rating</b>	<b>BBB+ / A-</b>	Not achievable given other financial metrics.
<b>Revenue</b>	<b>\$735 m p.a.</b>	Includes 30% reduction in actual transaction costs, even though those costs are based on competitively tendered prices.
<b>"Implied pre-tax return for equity holders is at best 4.5%" - Allan Gray</b>		

\* By way of cross check, the network valuation is ~50% lower than Telecom's 2010 accounting separation valuation of the network and ~30% lower than estimated value of electricity lines companies networks.

#### Feedback from investors

Feedback from investors is that:

- *"it will never be funded"* – Allan Gray
- *"This will result in under investment in the network to the disadvantage of consumers, retailers and the country as a whole"* – Black Crane

#### Recommendation

Our recommendation is that HEO Co. does not accept the request to supply nationwide UCLL, UCLFS and UBA services. The financial analysis simply doesn't stack up – there is a revenue gap, insufficient return on investment and HEO Co. is unlikely to attract investment. In addition, the network as designed would not be able to deliver UCLL, UCLFS and UBA services, meaning HEO Co. could not meet the regulatory requirements. Consumers will also ultimately be disadvantaged by the lack of future investment.

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## EXECUTIVE SUMMARY

This cross-submission is the last step in the pricing review processes before the Commission releases its final decisions. Since the processes began over 2 ½ years ago, parties have had more than 25 opportunities to submit in writing or at conferences and workshops on the Commission's approach to setting the UCLL, UCLFS and UBA prices.

Despite the extensive process, much of what other parties have said in submissions on the revised draft determination has been submitted before, with a significant focus on framework issues which were first raised at least 18 months ago. Where submitters do engage on modelling parameters they provide limited (if any) New Zealand-based evidence to support their positions, instead relying on international comparators.

In this cross-submission we focus on new issues raised by parties, with a table summarising where the Commission can find Chorus' previous responses to other issues which have been raised before.

The Commission's task is to determine the efficient cost of rolling out a nationwide network in New Zealand today. The Commission is in a unique position for a regulator engaged in a TSLRIC exercise; it has been provided with evidence of the actual cost of building a nationwide network today – costs which reflect New Zealand specific conditions and that would be faced by any hypothetical operator. We have provided tens of thousands of pages of actual cost data and build information to the Commission in response to over 10 formal statutory requests for information to support the Commission's modelling.

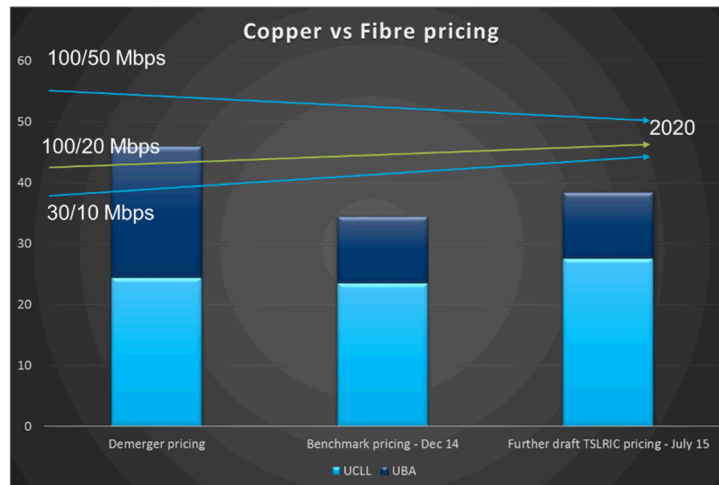
The majority of these costs are from contracts that were negotiated by Chorus against a backdrop of managing for cash. We have put price pressure on our suppliers to achieve the lowest costs possible and there has been no suggestion in the market that we have been anything but efficient. In fact, Australia is looking to New Zealand as setting the standard for fibre rollout.<sup>1</sup>

Despite this, the Commission is proposing to use unrealistic hypothetical costs which are significantly below what any operator could achieve building a nationwide network in New Zealand today. If the Commission corrected its model even just to account for the actual cost of trenching and connecting the 20% of lines outside the TSO footprint, the final aggregate price would be no less than the pre-benchmarked level of around \$45.

Pricing at that level would be consistent with the competitively negotiated UFB prices. While the UFB network is only being built in urban areas (so excludes the high cost rural areas), UFB prices provide a New Zealand-based sense check. For example, the wholesale 100/20 fibre product we introduced is \$41 today and tracks up to \$45 by 2020. Around 75% of new and changed fibre plans in July were on the 100/20 plan, and it sits between the 30/10 entry level fibre plan and the 100/50 plan:

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<sup>1</sup> The Australian Business Review "How much do FTTP NBN connections really cost?" (18 September 2015) available at <http://www.businessspectator.com.au/article/2015/9/18/technology/how-much-do-ftp-nbn-connections-really-cost>.

**Figure 1: Copper vs Fibre Pricing**


The much lower prices proposed by the Commission are based on hypothetical choices that are disconnected from the reality in New Zealand, compounded by unrealistic efficiency discounts.

In their submissions, investors have sent a clear message that the unrealistically low prices and the lack of predictability inherent in some of the Commission's choices will impact investment in New Zealand long term – not just in relation to telecommunications but for all regulated infrastructure. L1 Capital's view is that the revised draft sends a strong signal that the *"regulatory process is biased against the regulated entity"* and they note that L1 Capital have exited part of their shareholding in Chorus as a direct result of the lack of regulatory predictability.

Black Crane say that this process *"has significantly damaged the reputation of NZ as a destination for investment in regulated businesses"* - particularly when the Commission treats existing investment as sunk. Allan Gray estimates the pre-tax return for investors based on the Commission's model is well below what any reasonable investor would require.

The Commission's objective is to promote competition for the long term interests of end-users. As Schroders Investment explains, the long-term availability of capital for network investment is one of the most crucial elements of long-term consumer welfare. Yet the Commission's approach is putting this at risk. The final outcome also signals to investors how future fibre revenue and investment (or in fact any new investment) might be regulated in New Zealand.

Despite the long-term impact on end-users, RSPs continue to urge the Commission to reduce prices even further. Spark, for example, suggests a further 20% reduction on Beca's proposed build costs used by the Commission by way of a "bulk discount". This is completely at odds with the evidence of network build experts Downers who explain that the reality in the New Zealand market is that the work is not done by a single large civil contractor who could apply a discount but instead by a number of small contracting

companies.<sup>2</sup> Other RSPs suggest further reductions to operating costs and transaction charges by way of benchmarking and bulk efficiency adjustments.

The Commission's decision is not hypothetical; it has real consequences. The pricing processes impact around 80% of Chorus' revenues today and the final prices determine whether we can lift existing constraints on discretionary investment. For example, in response to the interim benchmarked prices coming into effect, we've deferred network and IT spend – e.g. deferring proactive maintenance which will ultimately show up as more faults. We have also incurred additional debt cost following credit downgrades.

The Commission has to date tended to rely on theoretical estimates, expert reports and international benchmarking in preference to the evidence provided by Chorus which shows the actual costs of building a network in New Zealand. New Zealand needs ongoing investment – as the Government highlights in its discussion document on the review of the Act, "*....there will be ongoing demand to keep up with consumer expectations. This will require significant investment.*" So if this tendency is not reversed in the final decision, future investment will be discouraged, short selling New Zealand to the long term detriment of end-users.

We summarise our response to key new issues raised by RSPs below.

### **Monthly charges**

A number of submitters are re-litigating the TSLRIC framework – asking the Commission to revisit the fundamental underpinnings of their model, such as asset valuation. Their arguments are the exact opposite of what they argued in previous submissions. For example, in February 2014 Spark argued that a "*comprehensive and conventional application of the TSLRIC methodology would best give effect to the section 18 purpose*".<sup>3</sup> They now say that the Commission's conventional approach to TSLRIC is "*not consistent with the statutory obligations imposed upon the Commission*".<sup>4</sup>

Their arguments for how TSLRIC should be applied are also internally inconsistent. For example, on the one hand they ask the Commission to assume Chorus doesn't exist (e.g. by ignoring the existing exchange areas) and then on the other ask the Commission to assume Chorus does exist (e.g. by arguing for re-use of Chorus ducts).

The Commission has consulted for more than 18 months on framework issues and we are broadly aligned with the Commission on the methodological approach to TSLRIC, including in relation to the use of ORC as the appropriate asset valuation, taking a scorched node approach, no re-use of assets or performance adjustment and the importance of taking into account New Zealand specific circumstances.

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<sup>2</sup> See for example Downer "Submission on further draft determination for UBA and UCLL services" (12 August 2015) at [10].

<sup>3</sup> Telecom (Spark) "Submission on process and issues paper for determining a TSLRIC UCLL price" (14 February 2014) at question 9, [45].

<sup>4</sup> Spark "Further draft pricing review determination for Chorus' UBA and UCLL services" (13 August 2015) at [9].

At this late stage in the process, we would expect parties to be providing evidence relating to the modelling parameters. While a number of submitters call for the Commission to use lower costs it is notable that they do not provide evidence of real New Zealand-based information to support their views. Instead, they rely on overseas models and different valuation frameworks to TSLRIC used by overseas regulators to argue the Commission's cost inputs are too high. This is despite the Commission recognising that New Zealand is unique and that benchmarking against European countries is flawed.

In contrast, we have provided up to date evidence about the cost of rolling out a network in New Zealand today - costs that reflect the largest scale and most rapid network deployment seen in New Zealand and takes account of the efficiency that has been gained over a number of years of build.

Many submitters also urge the Commission to assume a hypothetical environment which is divorced from real constraints – assuming away regulatory, demand, consenting and planning constraints. In asking the Commission to assume that 35% of New Zealand will be served by wireless technology, they are asking the Commission to assume away regulatory obligations (such as the requirement to provide an unbundled service and to self-consume unbundled services on an equivalent basis), topographical challenges and ever-increasing bandwidth demand. If Network Strategies' model was updated to allow for even the Commission's assumed level of throughput (1.9Mbit/s), we estimate that the cost would increase six fold – making FWA much more expensive than fibre.

While we do not believe FWA can be the MEA for UCLL as it cannot be unbundled, if the Commission were to assume FWA in its model, we agree that the revised draft strikes the right balance in terms of the scale of any deployment. It appropriately reflects the range of factors that any hypothetical operator would consider when deciding what technology to deploy – including regulatory obligations, technical constraints, ability to meet future needs and end-user preference. In terms of end-user preference, based on publicly available information, we estimate that there has been around 4% uptake of Vodafone's wireless service in rural areas, compared to 86% uptake on fixed lines in the same area.

In terms of modelling issues, to date we have focused on material issues, as have our expert advisors. We recognise that a TSLRIC exercise involves a certain amount of estimation and judgement and so we have concentrated on the key matters where we have provided evidence and New Zealand conditions should be taken into account.

In contrast, RSPs continue to focus on many very minor modelling issues. The impression they give is that every possible minor issue in the model leads to an overstatement of the price. To the extent there are more minor issues with the model, these are likely to be a balance of both under and over statement and certainly don't justify the aggressive response and global efficiency adjustment suggested by the RSPs.

Many submitters also continue to ignore investor concerns, arguing that there is no need to incentivise further investment given the UFB and RBI initiatives are said to be committed. It is not true that there is no or little risk to investment by the Commission's approach. The impact of the Commission's approach to Chorus' investment is already

reflected in the financial performance of the company, and investors have clearly explained the potential impact on future investment.

Submitters also seek to reduce the WACC even further by (for example) arguing that more weight should be placed on more recent data and that the data set should be narrowed when determining the asset beta. Our view is still that a longer time series and a larger data set is likely to result in a risk free rate and asset beta that better reflects the value over the regulatory period. Any refinement of the initial comparator set simply creates a biased asset beta estimate which cannot act as a proxy for capturing the systematic risk that any hypothetical operator would expect over the regulatory period.

We do however broadly agree with Network Strategies view on the relevant price trends that the Commission should use in its TSLRIC model.

### **Transaction charges**

Despite the Commission recognising the limits of benchmarking in a pricing review exercise, many submitters urge the Commission to take benchmarking further when setting the transaction charges. In doing so, they argue for further reductions to the efficient cost of undertaking transactional work in New Zealand. This simply takes transaction charges further from what can realistically be achieved in New Zealand.

In contrast, we have provided real costs, based on efficient prices competitively tendered with third parties. It is rational for an HEO to contract out these services in the same way as Chorus. By outsourcing transactional work, we are able to get an efficient price (determined through a competitive tender process) which is consistent with TSLRIC pricing. The costs that Chorus faces are the same costs that any hypothetical operator would face entering the market today.

If benchmarking is used as a sense check, it shows that Chorus' costs are well within the range of the benchmarked countries, supporting the view that they are efficient.

There is no evidence to support the argument that Chorus cross-subsidises between different transaction types in a way that drives regulated transaction costs higher. Transaction charges are price-capped by regulation and in relation to UBA provisioning costs Chorus could not charge separately for these until December 2014. This means Chorus has every incentive to drive costs as low as possible to improve margins. The fact Chorus negotiates prices for a wide range of other transactions with its three service companies means that there will be scale and scope efficiencies built into the prices.

The arguments made by some submitters that Chorus' costs are inefficient because of the number of truck rolls that are undertaken are both irrelevant and unfounded. Chorus recently undertook a review of the circumstances where trucks were dispatched which showed were no major deficiencies in Chorus' processes.

### **Substitution of initial price**

RSPs rely on a study of cases where overseas regulators have substituted (or not) regulated prices, and use this to argue that there should be no substitution of the final price for the initial price in New Zealand. But the study ignores the New Zealand context:



- In New Zealand we have a two-step pricing process, with the second step (triggered by notice within 25 working days of the interim price being released) being a review step. In contrast, the vast majority of the cases in the study do not involve a formal price review process;
- A number of RSPs have increased their retail prices in anticipation of the final price substituting the initial price (at the same time, the wholesale price decreased by around \$10). In fact, in their recent annual results presentation, Spark said "*Voice and Broadband plan prices raised in February in anticipation of higher input prices from 1<sup>st</sup> draft FPP.*"<sup>5</sup>

The second phase final TSLRIC pricing process was designed to implement and be consistent with section 18 of the Act. The Commission must consider section 18 when designing the TSLRIC model and arriving at the relevant price. Once that is done, the TSLRIC outcome must give effect to the legislative scheme by substituting that final and more correct price for the less efficient first phase benchmarked price. This is consistent with the Commission's own view that "*...prices based on forward-looking long run incremental costs are also consistent with the section 18 purpose statement, and will promote competition for the long-term benefit of end-users.*"

The Commission should not depart from the legislative framework or engage in any subjective assessment of criteria that is not found anywhere in the Act.

### **The structure of our submission**

Most of the matters raised by RSPs in their August submissions have already been raised before and our views have been set out in length in previous submissions. Rather than devoting more paper to responding to the same issues, we set out in **Appendix A** the references to the sections of our earlier submissions which address the points.

Our submission responds to the new issues as follows:

- **Part One** – addresses monthly charges by considering RSPs submissions on the framework for the pricing exercise, including: the valuation approach and determination of the MEA; key network build issues; the extent of the network; and WACC related issues;
- **Part Two**- considers the pricing review determination process for setting transaction charges; and
- **Part Three** – addresses ensuring the statutory review process is correctly implemented by substituting the initial price with the final price.

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<sup>5</sup> Spark "FY15 Financial results: Investor presentation" (2015) available at [investors.sparknz.co.nz/Investor-Centre/?page=Presentations---Webcasts](http://investors.sparknz.co.nz/Investor-Centre/?page=Presentations---Webcasts) at page 26.

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## PART ONE: MONTHLY CHARGE FOR UCLL AND UBA SERVICES

### Framework for monthly charges

#### **Conventional TSLRIC**

- 1 Spark argues that the Commission's conventional approach to TSLRIC is inconsistent with the purpose of the Act. This is the opposite of what Spark argued in its previous submissions. We agree with the Commission that applying a conventional TSLRIC approach, including the use of ORC, is simply implementing the statutory framework.
- 2 In its further draft decision, the Commission adopted what it described as a "*conventional approach to TSLRIC*", which was "*to estimate forward-looking, long-run, efficiently- incurred, incremental costs*". The means of doing this was "*to hypothesise an efficient operator building and operating an entirely new network using modern assets to provide the relevant regulated services*".<sup>6</sup> In our previous submissions, we agreed with the Commission's orthodox TSLRIC approach and that it is consistent with promoting section 18 objectives.<sup>7</sup>
- 3 In its current submission Spark says that the Commission's conventional approach to TSLRIC is "*not consistent with the statutory obligations imposed upon the Commission*"<sup>8</sup> for the following reasons:<sup>9</sup>
  - the key legal error under the Commission's framework, which affects various material choices, is that it has:
    - (a) rigidly adhered to its chosen 'conventional TSLRIC' model of an efficient new operator building a network from scratch; and
    - (b) therefore failed to constantly ask or check whether the implementation of that model properly implements TSLRIC interpreted in light of section 18.
- 4 Spark says that the Commission's decision to adopt a conventional TSLRIC approach "*has resulted in a strained interpretation that is not appropriate for a modern, efficient TSLRIC model. The better approach is to give less weight to 'conventionality' and more weight to an interpretation that best achieves the outcomes and purpose we are seeking to give effect to in New Zealand today*".<sup>10</sup> Spark argues therefore that "*the correct approach is a framework that relies primarily on s18 to give meaning to TSLRIC in a way that is appropriate to New Zealand-specific*

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<sup>6</sup> Commerce Commission "Further draft pricing review determination for Chorus' unbundled copper local loop service" (2 July 2015) at [177].

<sup>7</sup> See for example Chorus "Submission in response to draft pricing review determinations for Chorus' unbundled copper local loop and unbundled bitstream access services (2 December 2014)" (20 February 2015) at [90]-[91], [560.3], [683], [642] and [647]; Chorus "Cross-submission in response to draft pricing review determinations for Chorus' unbundled copper local loop and unbundled bitstream access services" (20 March 2015) at [6]; Chorus "Submission in response to draft pricing review determinations for Chorus' unbundled copper local loop and unbundled bitstream access services" (13 August 2015) at [48] and [178].

<sup>8</sup> Spark (13 August 2015) at [9].

<sup>9</sup> Spark (13 August 2015) at [10].

<sup>10</sup> Spark (13 August 2015) at [19]-[20].

*circumstances rather than one that relies primarily on "conventional" economic concepts developed in a vacuum."*<sup>11</sup>

- 5 The submission Spark now makes is the exact opposite of the submission it made to the Commission on 14 February 2014. Specifically, in answer to the question posed by the Commission "*What role should section 18 play in an FPP TSLRIC modelling objective?*", Spark said:

Section 18 considerations are important to every determination the Commission makes and a FPP determination is no different. But, when you consider the way that the Act is constructed, it is reasonable to assume, as the court did in *Telecom*, that the FPP is the most efficient way to determine a price for a designated access service. **Accordingly, a comprehensive and conventional application of the TSLRIC methodology would best give effect to the section 18 purpose.**<sup>12</sup> [Emphasis added]

- 6 Vodafone made a similar submission.<sup>13</sup>

- 7 As we have previously said, we agree with the Commission that a conventional approach to TSLRIC is consistent with the statutory purpose and the conclusion of the Court of Appeal in its recent consideration of the UBA initial pricing principle.<sup>14</sup>

- 8 We also agree with the Commission that conventional TSLRIC requires it to consider a hypothetical operator building and operating an entirely new network in New Zealand using modern assets to provide the regulated service. Chorus doesn't exist and the HEO's network is built "*from scratch*"<sup>15</sup> to ensure that it is not constrained by legacy choices. This approach provides a forward looking, long-run, efficiently incurred, incremental cost of the service,<sup>16</sup> thereby setting the build/buy objective and efficiency incentives which TSLRIC is intended to provide.<sup>17</sup>

- 9 We also agree that optimised replacement cost (**ORC**) should be used to value all assets because "*ORC is aligned with the concept of the hypothetical efficient operator who builds a network that is unconstrained by historical decisions on the existing network that provides the regulated services.*"<sup>18</sup> Arguments that the European recommendations point to a different valuation methodology are not relevant because they apply a different pricing principle than TSLRIC. In the New Zealand context an historic valuation methodology which recognises re-use of assets does not fulfil the statutory requirement to set a price based on a forward-looking TSLRIC.

- 10 RSPs are therefore wrong to point to the possible 9% reduction in monthly rental price identified by the Commission if re-usable assets are taken into account as an

<sup>11</sup> Spark (13 August 2015) at [24].

<sup>12</sup> *Telecom* (14 February 2014) at question 9, [45].

<sup>13</sup> Vodafone "Comments on UCLL FPP process and issues paper" (14 February 2014) at [C2.12].

<sup>14</sup> *Chorus Ltd v Commerce Commission* [2014] NZCA 440 at [43]-[44].

<sup>15</sup> Commerce Commission, UCLL decision (2 July 2015) at [177].

<sup>16</sup> Commerce Commission, UCLL decision (2 July 2015 at [177] and [1216].

<sup>17</sup> Sapere "Cross-submission on UCLL and UBA price determination issues" (24 September 2015) at [84]-[88].

<sup>18</sup> Commerce Commission, UCLL decision (2 July 2015) at [356].

"efficiency" that the Commission has not incorporated.<sup>19</sup> This reduction does not relate to an efficiency, but rather is a departure from the forward-looking long run exercise that the Commission is required to implement.

- 11 In any event we do not think that the Commission's calculation of the effect of departing from TSLRIC and valuing re-useable assets at historic cost is sound. It appears that the Commission has reached the 9% figure by assuming that all empty duct and manhole assets can be re-used. However, the HEO can only use assets that are in the right location and which are suitable for the optimised network (for example, ducts need to be fit for the intended purpose, at the right depth, have sufficient space, be of continuous lengths and installation needs to be done without risk of damage or health and safety issues).<sup>20</sup> This is likely to be a small proportion of duct and manhole assets.<sup>21</sup> Analysys Mason estimate that, even without these necessary limits, allowing for re-use of assets would result in a reduction of the UCLL monthly rental charge of, at most, less than 1%.<sup>22</sup>
- 12 RSPs are also wrong to say that the Supreme Court's *TSO decision* binds the Commission to disallow ORC<sup>23</sup> or prevents it from assuming a complete new build.<sup>24</sup> As the Commission recognises (and we agree), the *TSO decision* was specific to the statutory exercise concerned and "was not concerned with the proper approach to TSLRIC generally."<sup>25</sup> It is not binding or informative in the current situation. We set out in **Appendix B** our more detailed analysis of the *TSO decision* and why it is not applicable to the current pricing review determination.
- 13 The way RSPs ask the Commission to apply the TSLRIC framework is also internally inconsistent. On the one hand they ask the Commission to use an "efficient Chorus" (e.g., in relation to re-use of assets), but on the other ask the Commission to assume Chorus doesn't exist and to use an HEO construct that could never exist in New Zealand (e.g., in relation to the scale of aerial deployment). Conventional TSLRIC requires consideration of the HEO as the Commission describes.<sup>26</sup>

#### ***Inclusion of FWA in MEA for UCLL***

- 14 RSPs continue to seek to include FWA in the MEA for UCLL and to a far greater extent than currently modelled by the Commission on the basis that:

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<sup>19</sup> Spark (13 August 2015) at [207].

<sup>20</sup> For instance, asbestos ducts cannot be used if it would require cutting into the duct.

<sup>21</sup> Refer to our s 98 response dated 13 May 2015 which outlines many of the real world constraints and considerations that would need to be taken into account for any re-use. As noted in that response, you would only re-use manholes where you could access re-useable ducts. In New Zealand, any re-use would be constrained by the fact that nationally only **[CI: ]** of Chorus' underground network is ducted.

<sup>22</sup> Analysys Mason "UCLL and UBA FPP draft determination cross-submission" (24 September 2015) at [3.4]. Key strategic issues would also need to be considered as well, such as the likely service life compared with maintenance costs and future growth needs.

<sup>23</sup> Spark (13 August 2015) at [104].

<sup>24</sup> Spark (13 August 2015) at [105(b)].

<sup>25</sup> Commerce Commission, UCLL decision (2 July 2015) at [203].

<sup>26</sup> Sapere (24 September 2015) at [74]-[88].

an HEO would consider only the relative economics of FWA and FTTH in determining where FWA would be used;

the Commission has erred in determining the scope of FWA "*with reference to ex ante current real-world copper connection capability*";<sup>27</sup> and

the Commission should adopt the Network Strategies model of FWA deployment.

- 15 FWA cannot be used in the MEA for UCLL. It is not unbundlable at Layer 1 so does not provide the necessary (full or core) functionality required to be considered as part of the MEA.<sup>28</sup> It is also unorthodox: we are not aware of any jurisdiction that incorporates FWA into its model for a voice/broadband service because it is widely recognised that FWA struggles to provide broadband performance that is comparable to a fixed line service. It is essentially for these reasons that TERA has advised ComReg in Ireland not to include FWA in the MEA for the copper access network.<sup>29</sup> As Analysys Mason note, Sweden only uses FWA for voice/wireless access lines.<sup>30</sup>
- 16 If FWA were able to be used as the MEA for UCLL, the Commission's proposed rationale for the scope of its inclusion is sound.

### **Scope of FWA deployment**

#### *Unbundleability*

- 17 Submitters appear to concede that the ability to unbundle is relevant to the decision where to deploy FWA,<sup>31</sup> but then seek to limit the scope of its relevance in an attempt to broaden the FWA footprint either by geography (e.g. Zones 3 & 4) or by what they say would be the economic rationale of an HEO's deployment. However, we do not believe the rationale is correct on either basis, particularly when regard is had to the scope of unbundling today and the HEO's obligations to provide unbundling.
- 18 Putting to one side our primary position that the MEA must be capable of being unbundled, unbundling is in fact geographically widespread across both urban and rural areas nationally:

Chorus is required to self-consume UCLL on an equivalent basis wherever it provides UBA without POTS. This means all UBA without POTS lines are in effect unbundled lines;<sup>32</sup> and

UCLL and SLU are not limited to high density urban areas, with a number of rural sites in North and South Islands having been unbundled for the

<sup>27</sup> Vodafone "Submission on further draft determination for Chorus' unbundled copper local loop service and unbundled bitstream access service" (13 August 2014) at [D1.1].

<sup>28</sup> Chorus (20 February 2015) at [82].

<sup>29</sup> TERA "Report on the determination of appropriate costing and pricing methodologies for the copper access network in Ireland" (July 2015) available at [www.comreg.ie/fileupload/publications/ComReg1567A.pdf](http://www.comreg.ie/fileupload/publications/ComReg1567A.pdf) at page 104.

<sup>30</sup> Analysys Mason (24 September 2015) at [2.5].

<sup>31</sup> Spark (13 August 2015) at [160]; Vodafone (13 August 2014) at xv.

<sup>32</sup> Chorus "Deed of open access undertakings for copper services" (6 October 2011) at [7.1].

purpose of providing broadband services. Some sites unbundle long lines and may serve fewer than 100 lines.

- 19 What is clear is that unbundling cannot be assumed to be geographically limited to a small area of the country. The HEO would also have to provide (as does Chorus) unbundled local loop services wherever access seekers wish to purchase. By adopting an MEA in some areas which can't be unbundled, the Commission is implying that the ability to unbundle has no actual or potential value to RSPs or end users in those areas, even though real world experience shows RSPs continue to unbundle lines in areas which conventional wisdom might say are not viable.
- 20 While Spark and Vodafone argue that the Commission's FWA footprint is backward looking (on the basis that whether lines are currently able to be realistically unbundled is based on past investment decisions made by Chorus), their alternative proposals are even more backward looking.
- 21 Spark, for example, insists that the Commission should give consideration to past RSP investment decisions regarding the historical extent of unbundling on Chorus' copper network.<sup>33</sup> Similarly, both Network Strategies and Vodafone state that no unbundling of the network should be provided for beyond that which has historically been achieved by RSPs.<sup>34</sup> Consideration of the extent of existing unbundling is backward looking, determined not only by *historic* investment decisions by Chorus, but also by *historic* regulated price points.
- 22 It is also incorrect to assert that a forward-looking view should be based exclusively on the HEO's view of the economics of network deployment. Rather, as recognised by the Commission, the extent of unbundling by RSPs is a function of the RSP's demand (and therefore its economics) for unbundling.<sup>35</sup> Unbundling by RSPs (in contrast with the equivalence of inputs into UBA without POTS) is only unlikely to occur where there is insufficient demand for an investment in Layer 2 electronics to be economic. This may be a function of the addressable market served from that location, the technical capability of lines to support the services the RSP wishes to provide, or the price.
- 23 A point to point FTTH MEA has quite different characteristics to an FTTN/Copper network from an unbundling perspective (e.g. there are no small rural cabinets or practical line lengths limits). Even if you consider unbundling to be uneconomic in ESAs with less than, say 400 lines, this would exclude only about 2% of lines, not the 35% RSPs suggest will never be unbundled.
- 24 We therefore agree with the Commission to the extent that, if FWA was in fact able to be used at all, it would be appropriate to limit such use to the edge of the network.

<sup>33</sup> Spark (13 August 2015) at [159]-[161].

<sup>34</sup> Network Strategies "Revised draft determination for the UCLL and UBA price review" (13 August 2015) at [2.3.2]; Vodafone (13 August 2014) at [D4.6].

<sup>35</sup> Commerce Commission, UCLL decision (2 July 2015) at [1128].

*Other considerations relevant to choice of MEA*

- 25 Aside from unbundling issues with FWA deployment, RSPs seem to suggest that a rational HEO would only consider short term cost and demand in their choice of technology. We do not believe this would be the case.
- 26 Once an FTTH MEA is assumed, a rational HEO would consider a number of factors as to the extent it deployed fibre. A rational HEO would consider at least:

*Service performance:* the ability of the technology to deliver an acceptable and comparable level of performance. We note, for example, that, although Vodafone has extensively claimed coverage for its RBI service, its take-up appears limited to around 4% based on government notified statistics and actual Chorus demand in RBI areas. Chorus, in contrast, currently has 86% take-up of fixed line broadband in RBI areas (an increase of about 15% over the last 4 years), suggesting that most customers prefer a landline service to a fixed wireless service where both are available. This is unsurprising, given the high variability of throughput on FWA and the increasing use (as the RSPs note) of video streaming services which requires high sustained throughput over lengthy periods.

*Future ability to meet service needs:* wireless technology requires substantial ongoing investment to meet rapidly increasing broadband usage, which Vodafone insists the Commission must give consideration to,<sup>36</sup> yet for which inadequate provision has been made in the Network Strategies model of FWA costs. Analysys Mason show that, on the Commission's own estimated throughput requirements, there is a six fold increase in costs on the Network Strategies model.<sup>37</sup> A prudent HEO would deploy fibre as widely as it feasibly could, and would use wireless technologies only sparingly, anticipating the need for future replacement to meet growing demand.

*Physical difficulties of deployment:* as Analysys Mason have previously advised, planning FWA deployment is inherently uncertain given the physical and geographical constraints of FWA; as a result some premises will be unserved by the initially built network, which can involve considerable costs to overcome.<sup>38</sup> In contrast, fibre deployment can be well planned.

- 27 With these considerations in mind, a rational HEO is likely to deploy fibre as far as it can. Again, on this basis, if FWA were an available MEA, it would be appropriate to limit FWA to the edges of the network in a manner similar to what the Commission proposes.

<sup>36</sup> Vodafone (13 August 2014) at [A4.13]-[A4.18].

<sup>37</sup> Analysys Mason (24 September 2015) at [6.2].

<sup>38</sup> Analysys Mason "UCLL and UBA FPP draft determination submission" (20 February 2015) at [5.4]; Analysys Mason "UCLL and UBA FPP draft determination cross-submission" (20 March 2015) at [6.2].

*The Network Strategies model*

28 Vodafone takes issue with Commission's view that "*submissions have not provided a workable solution that can be applied to the whole country*",<sup>39</sup> asserting that Network Strategies' have done so and the Network Strategies model is a workable solution the Commission should adopt.<sup>40</sup>

29 We agree with the Commission's view that an acceptable model "*would need to quantify the value that end-users place on the ability to unbundle at layer 1, as well as contend with the large number of material issues that would arise in a "green fields" context.*"<sup>41</sup> The Network Strategies model doesn't meet this standard and should be rejected. Even if the Network Strategies model were to meet this standard it has a number of other significant shortcomings on which we and Analysys Mason have submitted previously, with a further discussion in their report provided with this cross-submission. Issues include a lack of transparency, inadequate provision for future growth which would dramatically increase the costs of FWA, and improperly accounting for factors which impede the use of FWA technology (such as local physical constraints (e.g. shelter belts) and inadequate consideration of difficult and costly terrain and geo-demographic factors).<sup>42</sup>

*Other issues*

30 Analysys Mason has provided a comprehensive response to various issues raised by Network Strategies and WIK in relation to FWA modelling,<sup>43</sup> including responding to the issue of microwave backhaul (which it is noted is used sparingly, for practical reasons).<sup>44</sup>

31 We also note that RSPs do not appear to have clearly understood the Commission's approach to FWA modelling costs. The Commission has not boldly gone where no man has gone before and implied that ESA boundaries somehow prevent radio transmission. The Commission's understanding of the Laws of Physics has been misunderstood by RSPs.<sup>45</sup>

32 Finally, contrary to the RSPs' submissions, the Supreme Court's judgment in the *TSO decision* does not require the Commission to include FWA as part of the MEA.<sup>46</sup> In that case, the Commission – having determined that FWA was fully capable of meeting the service description - excluded FWA to ensure NPV neutrality between regulatory periods.<sup>47</sup> The reason for FWA's exclusion was held to be an error by the Supreme Court.<sup>48</sup> However, the issue here is the prior question of whether FWA is capable of providing the service description and, to what extent it would be deployed by an HEO.

<sup>39</sup> Commerce Commission, UCLL decision (2 July 2015) at [1124]-[1125].

<sup>40</sup> Vodafone (13 August 2014) at [D3.1]-[D3.3].

<sup>41</sup> Commerce Commission, UCLL decision (2 July 2015) at [1127].

<sup>42</sup> Analysys Mason (20 March 2015) at [5].

<sup>43</sup> Analysys Mason (24 September 2015) at [6.2]-[6.7].

<sup>44</sup> Analysys Mason (24 September 2015) at [6.5].

<sup>45</sup> Analysys Mason (24 September 2015) at [6.4].

<sup>46</sup> See for example Spark (13 August 2015) at [105].

<sup>47</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [41]-[42].

<sup>48</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [75].



**MEA for UBA**

- 33 We agree that the MEA for the UBA service must be based on the "*additional costs of the UBA service*" to the Chorus FTTN/Copper network. It is not appropriate, as RSPs argue, to use a different basis for the MEA for the additional costs of the UBA service simply because the price for both UCLL and UBA services are being determined at the same time.
- 34 RSPs who are pursuing a strategy of unbundling also explain that "*relativity is a major issue for them*".<sup>49</sup> If the relativity between the UBA price and the UCLL price is not based on the costs of efficiently unbundling the existing FTTN/Copper network, efficient build/buy signals to unbundlers will not be provided. Contrary to Spark's submission, ensuring relativity between the price of UBA and UCLL is consistent with section 18,<sup>50</sup> because relativity is a mandatory section 18 consideration.<sup>51</sup>

**Aggregation approach**

- 35 WIK suggests that the Commission's aggregation approach may produce negative SLU costs in certain areas.<sup>52</sup> Analysys Mason has reviewed these comments and concluded the issue identified by WIK is an artefact of the Commission's approach to excluding capital costs from TSO areas, not its aggregation approach. If the TSO polygon issues were corrected as Chorus suggests, this issue would not arise.<sup>53</sup> The aggregation approach does not affect the price of UCLL.

**Network build costs***Network footprint*

- 36 While RSPs have made submissions in relation to the appropriate network footprint, the Commission is specifically consulting on this point with submissions due on 6 October and Chorus intends to respond on this point at that time. We note in the interim (as do Analysys Mason) that, if anything, the Commission's assumptions may be under-dimensioning capacity related to serving addresses with multiple active lines.<sup>54</sup>

*Modelling issues*

- 37 RSPs raise numerous "errors" in the Commission's modelling, many of which relate to minor detail, which are said to lead to price increases. However, RSPs provide no evidence as to how the errors might be addressed. Nor do the RSPs raise the counter-balancing considerations which also need to be taken into account if their suggestions were accommodated. Rather, the RSPs seek to benchmark against European countries in a manner more akin to the initial pricing determination exercise and state, on that basis, that global adjustments need to be made.

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<sup>49</sup> Wigley and Company "Submission on further draft pricing review UCLL and UBA determinations" (13 August 2015) at [7.5].

<sup>50</sup> Spark (13 August 2015) at [131].

<sup>51</sup> Telecommunications Act 2001, Schedule 1, Part 2.

<sup>52</sup> WIK-Consult "Submission in response to draft determinations on UBA and UCLL" (12 August 2015) at [384].

<sup>53</sup> Analysys Mason (24 September 2015) at [2.6].

<sup>54</sup> Analysys Mason (24 September 2015) at [3.7].

- 38 In contrast, we have concentrated on the key matters. Concentrating on minutiae is counter-productive as it can affect the robustness of the model given the need to properly balance the various network elements. Analysys Mason have provided a review of the submissions made on behalf of RSPs and list a number of internal consistency issues. They conclude that most issues raised by RSPs are either meritless or immaterial.<sup>55</sup>
- 39 In addition, care is needed as many of the issues submitters raise cannot be considered in isolation. For example, Downer have noted that in practice, use of 110mm ducts is no longer the preferred methodology for FTTH networks in New Zealand.<sup>56</sup> However, the network modelled by the Commission differs in a number of respects from the networks currently being deployed. Eliminating 110mm ducts from the Commission's model would require other changes reflecting the different architecture that would require to be adopted (e.g. on matters such as provision of spare capacity). Similar issues apply to RSP observations regarding use of ducting where construction uses mole ploughing.<sup>57</sup>
- 40 RSPs further argue there are unexplained build cost adjustments or errors but, as Analysys Mason highlight, these are in fact corrections the Commission has made to address errors previously raised with its modelling costs. For instance, the 600% adjustment to DSLAM cabinets is in fact a change in modelling approach recognising that UBA should bear the costs of the larger cabinets and the cost of additional facilities needed for UBA.<sup>58</sup>
- 41 Analysys Mason also point out that a number of what WIK calls modelling "errors", such as fibre cabling costs and alleged double counting of joint costs, are in fact valid modelling assumptions.<sup>59</sup> WIK are also incorrect that there is no justification for TERA to include an uplift due to obstacles to distribution trenches. As Analysys Mason comment, the trench deployed for lead-ins in the Commission's model is the minimum amount possible. Restricting the model in this way means some allowance needs to be made for the many occasions when deviation will be required.<sup>60</sup>
- Real world conditions*
- 42 WIK suggest that the Commission should benchmark trenching costs to those of Sweden as WIK suggests.<sup>61</sup> This is inappropriate for a TSLRIC exercise. We have provided real evidence of the cost to deploy a national network in New Zealand today. The data is the best evidence available of what it would cost any HEO to deploy a fixed line network in New Zealand conditions on a forward looking basis.

<sup>55</sup> Analysys Mason (24 September 2015) at [3.1]-[3.10], [4.1]-[4.2] and Annex A.

<sup>56</sup> Downer (12 August 2015) at [1.g].

<sup>57</sup> Vodafone (13 August 2014) [H5]; WIK-Consult (12 August 2015) at [7.2.9].

<sup>58</sup> Analysys Mason (20 February 2015) at [3.4].

<sup>59</sup> Analysys Mason (24 September 2015) at [3.10.7].

<sup>60</sup> Analysys Mason (24 September 2015) at [3.6].

<sup>61</sup> WIK suggest a single benchmark is appropriate in this context, despite RSPs criticising the Commission for using a single LFC benchmark in the context of transaction charges: WIK-Consult (12 August 2015) at section 9.2 and [104(b)]. We also note that WIK's analysis of the Swedish benchmark is flawed. In order to be comparable, a number of currently excluded assets would need to be included, leading to almost NZD \$35 per month, rather than NZD \$23 as WIK claim; Analysys Mason (24 September 2015) at [2.5].

- 43 Our data is consistent with the evidence that expert network builders, Downer, have independently provided. Downer advises that the report prepared for the Commission by Beca does not accurately reflect the New Zealand environment or address the full range of issues that would need to be considered to select particular build methodologies.<sup>62</sup> Downer also note that the Commission's model does not take account of the laterals that would be needed to connect the trench from the street to end-user property boundaries,<sup>63</sup> does not adequately account for reinstatement costs (which Downer estimate is understated by about 50%)<sup>64</sup> or local council and road controlling authority constraints.<sup>65</sup>
- 44 The evidence we have provided to the Commission on trenching rates derived from our UFB and RBI deployment takes account of all these factors for a deployment in New Zealand. This includes various trenching methodologies that can be used in New Zealand conditions, including the use of hydro trenching which is increasingly used for laterals and in areas where other utilities are present, and the limits on other methodologies. Horizontal direction drilling is the most prevalent deployment method used in our underground UFB deployment.
- 45 Downer also explain that trenching work is largely carried out in New Zealand by a number of small contracting companies in order to spread the risk of work volume and location issues. These companies contract to larger companies who provide the framework and systems to meet New Zealand conditions, such network mapping and ensuring health and safety requirements are met. This means contractor discounts do not occur in practice in New Zealand. As we have previously stated, an HEO would have similar size and leverage to Chorus.<sup>66</sup>
- 46 There are other instances of RSPs not taking account of New Zealand conditions in their arguments based on international benchmarks. For example, WIK claims that minor side poles are not necessary on the basis that "*in many cases the buildings are at the road edge and ETPs installed at the upper level of the building should be sufficiently high.*"<sup>67</sup> While this might be true in Europe, it is not the case in New Zealand given the number of single storey houses set many metres from the road.

#### *Consenting framework*

- 47 RSPs say that the Commission should assume that amendments to the National Environmental Standards for Telecommunication Facilities (**NESTF**) will come into force and accordingly that consenting processes are faster and lower cost during the regulatory period than has previously been the case. The proposed amendments to the NESTF are not in place and there is no guarantee they will be implemented as currently being discussed.

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<sup>62</sup> Downer (12 August 2015) at page 1.

<sup>63</sup> Chorus (13 August 2015) at [86].

<sup>64</sup> We note too that Downers are not involved with Auckland. We have already noted that Auckland reinstatement costs can be expensive; Chorus (20 February 2015) at [428] and [435].

<sup>65</sup> Downer (12 August 2015) at [16.c].

<sup>66</sup> Chorus (20 February 2015) at [124]-[127].

<sup>67</sup> WIK-Consult "Cross-submission in response to the Commerce Commission's draft pricing review determination for Chorus' unbundled bitstream access service and unbundled copper local loop service" (19 March 2015) at [135]; WIK-Consult (12 August 2015) at [252].

48 Even if the amendments were to be taken into account, this does not mean consenting issues can be ignored. Both aerial and underground telecommunication cables remain subject to relevant district plan controls, including those associated with trees, heritage areas (including mana whenua considerations), natural hazards and visual amenity considerations. Where these factors are triggered, resource consents would still be required. The proposed amendments also do not allow for additional poles or new road crossings. As electricity poles are only on one side of the street, any build by the HEO would trigger the need for resource consents. We have previously provided evidence as to the cost and time associated with the consent process.<sup>68</sup>

**Exclusion of capital costs**

49 We have previously explained why it is inappropriate to exclude capital costs when calculating the TSLRIC of the regulated service – the Commission is required to consider the cost of providing the total quantity of the service Chorus (and therefore the HEO) must provide the regulated service to.<sup>69</sup> It is also inconsistent with TSLRIC methodology to consider funding structures to deliver other services, such as UFB and RBI initiatives.

**End-user contributions for lead-ins**

50 The Commission currently excludes the capital costs of underground lead-ins. RSPs argue that the Commission should also exclude the costs of aerial lead-ins, apparently on the basis of Chorus' recently introduced capital contribution policy in relation to lead-ins.<sup>70</sup> However, as we have previously explained:

the recent policy – only introduced in response to the initial pricing determination - does not provide the best evidence of what an HEO deploying a national network could and would seek from end-users. Instead, the contribution policy for UFB deployment is the best evidence of what capital contributions for lead-ins could be sought;<sup>71</sup>

even on a backwards looking approach (which we do not accept is appropriate) there is no evidence that Chorus or its predecessors recovered 100% of the capital costs of lead-in deployment.<sup>72</sup> And, in this respect, there is a difference between aerial and underground deployment as the requirement that end-users provide an open trench (which appears to have been the case after 2002 at least), on which the Commission currently relies, has no application in the case of aerial lead-ins.

51 Analysys Mason also considered WIK's criticism of the Commission's treatment of underground lead-in assets greater than 100m, and found no error.<sup>73</sup> However,

<sup>68</sup> Chorus (13 August 2015) at Appendix B.

<sup>69</sup> Chorus (20 February 2015) [95]-[105].

<sup>70</sup> Spark (13 August 2015) at [262]; Vodafone (13 August 2014) at [K2]; WIK-Consult (12 August 2015) at [5.5].

<sup>71</sup> Chorus (13 August 2015) at [76]-[79].

<sup>72</sup> Chorus (13 August 2015) at [79].

<sup>73</sup> Analysys Mason (24 September 2015) at [3.5].

Analysys Mason has identified a number of other issues (such as exclusion of "laterals") which means that the model is under-dimensional.

### ***RBI and UFB funding***

52 We have previously explained why both UFB and RBI funding are irrelevant to the TSLRIC exercise.<sup>74</sup> The funding relates to difference services. Taking it into account in the TSLRIC calculation will result in an understatement of the costs of providing the service. Further, UFB funding is not a subsidy or a grant as RSPs continue to suggest.

53 RSPs argue that RBI and UFB funding must logically be taken into account if the Commission assumes that the HEO would deploy a FTTH network beyond approximately 65% of the population.<sup>75</sup> However, the premise of this argument is that there is no economic case for unbundling in Zones 3 and 4 absent Government funding. This premise is flawed for the reasons given above in relation to FWA deployment, including because unbundling does occur in these regions. The argument is also inconsistent with the HEO exercise, as discussed in our previous submissions.<sup>76</sup>

### **Opex**

54 RSPs argue that efficiency/productivity improvements should be taken into account in an annual opex adjustment. Analysys Mason note that the majority of jurisdictions do not make such an adjustment.<sup>77</sup> RSPs do not identify any evidential basis that would support this adjustment, and given the already significant efficiency adjustment made to the best evidence of the actual costs of operating a nationwide network in New Zealand, any adjustment would only increase the extent to which the Commission's model includes an unrealistic efficiency adjustment.

### **Depreciation**

#### ***Price trends***

55 We agree with Network Strategies that the Commission's proposed heavy and civil engineering construction sector producer price index (**PPI**) is an imperfect proxy and therefore inappropriate. As CEG have explained, this index includes infrastructure irrelevant to telecommunications, such as furnace construction and golf course construction.<sup>78</sup> The prominence of the road sub-sector in the "Heavy and Civil Engineering Construction" means the series is not representative to the telecommunications sector and may be subject to different volatilities.<sup>79</sup>

56 CEG have developed bespoke indices which adopt elements of the PPI which are relevant or comparable to trenching forecasts for the telecommunication sector.

<sup>74</sup> Chorus (20 March 2015) at [115]-[122].

<sup>75</sup> Vodafone (13 August 2014) at [K3.6]-[K3.10].

<sup>76</sup> Chorus (20 March 2015) at [115] and [120]-[121].

<sup>77</sup> Analysys Mason (24 September 2015) at [5.1].

<sup>78</sup> CEG "Response to the further draft determination" (August 2015) at [283]; and for similar comment Network Strategies (13 August 2015) at [6.3].

<sup>79</sup> CEG "Price trends and asset beta cross submission" (September 2015) at [13].

CEG's analysis indicates a long term price trend of 1.99% to 2.77%, with CEG advising that the lower end of the range is appropriate.<sup>80</sup>

57 Network Strategies also suggest a price trend for fibre optic cable of -3.0% based on United States data after the dotcom bubble (between 2003 and 2014), adopting an alternative fibre index and averaging approach to what NZIER proposed. CEG has reviewed Network Strategies' index and suggests two proposals the Commission could reasonable adopt, either of which will result in a long term price trend for fibre optic cable being around -2%.

58 CEG also advise that the Commission's NZIER's estimate of 1.9% for LCI is appropriate, rather than an estimate based on trend growth in CPI, as the indices are likely to grow at different rates.

### ***Demand***

59 RSPs suggest that increases in cloud computing, remote working and consumption of high definition will lead to an increase in demand. While these factors are likely to lead to an increase in throughput demand, it is unlikely to lead to an increase in fixed line connections over the regulatory period, particularly given the capability of fibre. This is consistent with our experience during the recent period of high throughput growth, which has not been accompanied by significant growth in fixed lines.

### **Investment considerations**

60 The estimate of the WACC for the regulatory period is critical to enabling a regulated entity to earn a fair return. The importance of the role of the WACC and the way investment incentives are treated is highlighted in submissions from investors.

61 Investors have clearly signalled their concern that the Commission has not adequately considered the importance of investment, despite the clear focus of section 18(2A). For example:

L1 Capital note the readily apparent estimation errors in calculating the TSLRIC price should be reflected in the WACC percentile adopted;<sup>81</sup>

Allan Gray state that the actual WACC estimate is well below what any reasonable investor would require to invest in the regulated services. Indications are that investors have decided that the proposed price does not deliver a return sufficient to justify building and operating a network; and

Black Crane state that New Zealand has been damaged as a destination for investment in regulated businesses by the proposal to treat risks investors have taken as "sunk" as soon as contracts become committed.<sup>82</sup>

<sup>80</sup> CEG (August 2015) at [287]-[295].

<sup>81</sup> We note that L1 Capital signal that they have exited part of their shareholding in Chorus as a direct result of the lack of regulator predictability; L1 Capital "Submission on UCLL and UBA pricing reviews" (13 August 2015) at page 1.

**WACC parameters**

62 RSPs have not responded in any depth to the Commission's proposed estimate of the WACC parameters, except to suggest that the asset beta should be lower and that the Commission should revert to its earlier leverage estimate and swap assumptions. We disagree with both of these proposals.

63 In relation to asset beta, RSPs say that more weight should be given to the most recent 5-year period of data. However, it is more appropriate to adopt a longer time series as well as considering the most recent data to estimate the appropriate beta for the regulatory period,<sup>83</sup> which aligns with the Commission's approach under Part 4 of the Commerce Act 1986. This approach was accepted by the High Court as providing a good indication of the appropriate beta for a 5 year regulatory period.<sup>84</sup>

64 In fact, when Oxera's beta estimates are updated to also take account of recent data the estimate of asset beta measured to 31 July 2015 is in the range of 0.45 and 0.52. The range for an update to the CEG comparator set is between 0.52 and 0.56.<sup>85</sup>

65 Network Strategies also argues that restricting analysis to the two 'correct' adjacent five year periods for estimating asset beta (five years ending April 2010 and March 2015 respectively) results in the average asset beta estimate falling to 0.43. We agree with CEG that the Commission is correct to give weight to asset betas estimated over the five years to April 2009 because this estimate is less affected by the 2009-2012 periods of international financial crisis (a period that is unlikely to reflect market conditions going forward).<sup>86</sup>

**WACC percentile**

66 All RSPs say that no uplift is required for the WACC or the TSLRIC price as the quantitative analysis provided by Oxera does not indicate that an uplift is warranted. However, as CEG have advised, once errors in the Oxera model are corrected, Oxera's modelling demonstrates that an uplift is warranted.<sup>87</sup> The quantitative outcome is in line with CEG's own analysis provided earlier this year.<sup>88</sup> Once corrected, both models indicate around a 75<sup>th</sup> WACC percentile is appropriate.<sup>89</sup>

67 RSPs are also critical of the absence of evidence in relation to risks of disruptive technologies. But, as Sapere note, the nature of "disruptive technologies" is that evidence of a causal nature will not exist.<sup>90</sup> The analysis by Oxera and CEG is the best available evidence of the relationship between WACC, investment, and benefits for end-users. The comprehensive treatment of the issue in these reports compares

<sup>82</sup> Black Crane Capital "Submission on UCLL and UBA pricing reviews" (12 August 2015); refer also to Allan Gray "Submission to UCLL and UBA FPP further draft determination" (12 August 2015) at page 2, WACC.

<sup>83</sup> CEG "WACC parameters in the UCLL and UBA draft decision" (February 2015) at [3]-[6] and [18]-[74]; CEG (August 2015) at [52] and [194]; CEG (September 2015) at Part 3.

<sup>84</sup> *Wellington International Airport Limited & Ors v Commerce Commission* [2013] NZHC 3289 at [1523].

<sup>85</sup> CEG (September 2015) at table 1, page 22.

<sup>86</sup> CEG (September 2015) at [48].

<sup>87</sup> CEG (August 2015) at [214]-[273].

<sup>88</sup> CEG "Welfare effects of UCLL and UBA uplift" (March 2015) at [4.3].

<sup>89</sup> CEG (August 2015) at [53]-[62] and [214]-[269]; CEG (March 2015) at [4].

<sup>90</sup> Sapere (24 September 2015) at [117]-[121].

favourably with the evidence that the Commission has relied upon in the energy sector to justify an uplift to the WACC estimate.

- 68 Investors will not (as is reflected in investors' submissions) take the necessary risk to invest if a regulator later decides not to reward them for seeking to commit resources to develop innovations. Rational investors will anticipate the regulatory opportunism in the approach promoted by RSPs and consequently reduce investment; limiting innovations in the long-term.<sup>91</sup>
- 69 Spark also argues that catastrophic events do not warrant an uplift as the cost of such events will be covered by insurance. While the full cost is unlikely to be covered,<sup>92</sup> Spark's approach highlights its focus on short term cost-saving rather than a long-term view of the network. In supporting a modelling approach which cuts spending on maintenance and operations, and does not allow for any spare capacity nor make any other allowance to accommodate unforeseen or unplanned events, there are likely to be performance issues for end-users.<sup>93</sup>
- 70 Continual investment in pro-active maintenance, capacity and upgrades minimises outages and degradation in service in the first place. However, as Allan Gray note, cash flow needs to be appropriately valued if continued investment is going to be made in a network.

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<sup>91</sup> Sapere (24 September 2015) at [71].

<sup>92</sup> Chorus (20 February 2015) at [672]-[676].

<sup>93</sup> We note that Spark supports the Commission's proposed approach not to allow spares or capacity in its modelling of the monthly charges, yet criticises the lack of these features as creating inefficiency and performance issues for transaction charges.



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**PART TWO: TRANSACTION CHARGES**

- 71 RSPs argue for a reduction in transaction costs by extending the benchmarking proposed in the draft determination. They say this will establish an efficient cost that is comparable with charges for similar tasks overseas. However, that is not the statutory objective: the purpose of the pricing review is to assess the efficient cost of providing the service in New Zealand.
- 72 The Commission has acknowledged that the HEO would rationally adopt a contracting out model. This should deliver an efficient price, consistent with a TSLRIC exercise.<sup>94</sup> Chorus' service company costs, set by competitive tender in accordance with the contracting model, therefore provide the best evidence of the actual costs and constraints that an HEO would face.
- 73 Moving even further away from these market-based costs, as RSPs suggest, compounds the risk identified by TERA: that benchmarking will lead to significant inaccuracies in the setting of Chorus' wholesale price list. An outcome where an HEO cannot recover the full amount of competitively tendered costs does not deliver a TSLRIC price.
- 74 As we explain below:
- the process of contracting out leads to efficient prices;
  - copper provisioning and maintenance has been a part of our business for many years now, so systems and processes are fit for purpose, and cost drivers (including task time) are well understood;
  - benchmarking is inappropriate in the context of a cost-based modelling exercise, and RSPs' proposed additional benchmarking would increase the divergence between European benchmark costs and New Zealand based costs; and
  - the broader criticisms made by RSPs concerning the mix of charges invoiced are not relevant to the efficient cost of the transaction charges. As Analysys Mason notes, seeking to reduce the cost of the charges on the basis of arguments about mix is illogical.<sup>95</sup> RSPs' criticisms are also misplaced: Chorus does actively seek efficiencies and is responsive to valid RSP concerns.
- 75 RSPs raise a number of suggested amendments to the charges in the STD which fall outside the scope of the current pricing review exercise.

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<sup>94</sup> Vodafone acknowledges this: Vodafone (13 August 2014) at [C4.1].

<sup>95</sup> Analysys Mason (24 September 2015) at [7.1.5].

**The efficiency of Chorus' contracting out model*****Contracting out***

- 76 As the Commission rightly recognises, an HEO in the New Zealand context would contract out provisioning services.<sup>96</sup> The process of contracting out will lead to competitively determined, efficient prices. Vodafone even acknowledges this, but simply asserts that this *may not* be the case here.<sup>97</sup>
- 77 The tender process run by Chorus is designed to secure the most competitive (and therefore efficient) pricing available in the New Zealand market:
- our transaction charge work is desirable for service companies, because of the high value of Chorus' contracts in each service area. This value is driven by high volumes of service requests;
- the tender process generates competitive tension between at least three service companies in each service area;<sup>98</sup>
- submitted prices are broken down into cost components in a transparent manner to allow comparison against other service company tenders; and
- an HEO would be in a similar position to negotiate between service companies to obtain the lowest price available in the market.
- 78 Our contracts with service companies also contain specific provisions designed to drive efficiency and, where possible, deliver further cost savings during the term of the contract. For example, the agreements incorporate provisions that:

**[CI:]**

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<sup>96</sup> Commerce Commission, UCLL decision (2 July 2015) at [592].

<sup>97</sup> Vodafone (13 August 2014) at [C4.1].

<sup>98</sup> Chorus "Submission in response to the Commerce Commission's consultation paper: Consultation on setting prices for service transaction charges for UBA and UCLL services (25 September 2014)" (9 October 2014) at [31]; Chorus "Cross-submission in response to the Commerce Commission's consultation paper: Consultation on setting prices for service transaction charges for UBA and UCLL service (25 September 2014)" (16 October 2014) at [35] and [47.2].

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79 As Sapere advise, in the absence of any identified inefficiencies, the competitive tendering approach can be expected to reflect the efficient, forward looking cost required to provide the requisite service in the New Zealand market; the outcome required by TSLRIC.<sup>99</sup>

80 [CI:

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**Cross-subsidisation**

81 RSPs assert that there "may be" cross-subsidisation in charges because transaction charges are negotiated as part of package.<sup>100</sup> In fact, negotiating costs as a package drives economies of scale and scope. The vast majority of service company codes are also consumed by Chorus. In negotiating service company contracts, Chorus applies the same discipline to charges we incur and those passed through to RSPs.<sup>101</sup> Analysys Mason notes that the prices provided by service companies are transparent, with a clear breakdown of activities that can be scrutinised across all tenders, and that Chorus has no incentive to make connections more costly as its interest is to have lines in service to receive monthly revenue.<sup>102</sup>

82 RSPs are also critical that Chorus' service company codes do not map precisely to transaction charges. However, as the Commission rightly recognises, there are efficiency benefits in aggregating charges to reduce administrative costs.<sup>103</sup> Without requiring service companies to provide a quotation for each job (which would be inefficient), any fixed price will reflect a degree of unders and overs, providing a price that reflects expected costs in the long run.<sup>104</sup> Any 'cleaning' process would need to incorporate higher overhead costs to reflect the inefficiencies generated by disaggregated costs, and increased costs for more complex transaction charges.

**Additional benchmarking of costs**

83 We remain of the view that benchmarking against international data is not consistent with a TSLRIC process and will not generate an accurate representation of an HEO's

<sup>99</sup> Sapere (24 September 2015) at [97].

<sup>100</sup> Spark (13 August 2015) at [21] and [340(a)]; Vodafone (13 August 2014) at [C4.19(a)]; CallPlus "Submission on the Commerce Commission's further draft pricing review determinations for UBA and UCLL services" (13 August 2015) at [13].

<sup>101</sup> This includes the cost of new UBA connections for three years post demerger. See Chorus (16 October 2014) at [35]. See also Analysys Mason (24 September 2015) at [7.1.1].

<sup>102</sup> Analysys Mason (24 September 2015) at [7.1.6] and [7.1.5].

<sup>103</sup> Commerce Commission, UCLL decision (2 July 2015) at [581]; Chorus "Response to the Commission's clarification requests on transaction charges" (10 March 2015) at page 1.

<sup>104</sup> We note that the Commission recognises this in the case of monthly charges with the geographical averaging required under the Act.

forward-looking costs. The Commission has acknowledged that TSLRIC modelling should reflect New Zealand costs. We agree,<sup>105</sup> and this point applies equally to transaction charges. The suggestions raised by RSPs would leave an HEO unable to recover its costs. In addition, RSPs' benchmarking suggestions suffer from significant limitations, which we discuss briefly below.

### **Aggregated benchmarking**

84 WIK first suggests that the Commission should take a more aggregated approach to benchmarking – adjusting overall prices rather than individual components.<sup>106</sup> WIK places reliance on a survey of 29 EU countries, which it says shows that New Zealand prices are high.<sup>107</sup> However, many of these countries are subject to regulatory and real world environments that bear no resemblance to New Zealand, (e.g. many are not subject to TSLRIC regulation). These countries tell us nothing about the costs of transaction charge services in New Zealand.<sup>108</sup> No HEO in New Zealand could operate with connection charges of €0-13 as in the case of Austria, Croatia and Poland unless the HEO was reimbursed for these activities in the monthly rental charge.

85 The wide range of EU 'average' connection charges<sup>109</sup> shows that Chorus' prices are, in fact, not particularly high.<sup>110</sup> Chorus' average cost (before benchmarking) falls well within the range. If the Commission's benchmarks from the re-benchmarking determination are adopted,<sup>111</sup> the resulting average is €43.33 – very close to our average charge.<sup>112</sup> The wide range also confirms that connection charges are highly country-specific.

### **Adjustment of additional cost components**

86 Some RSPs have alternatively suggested that more cost elements be adjusted.<sup>113</sup> However, the Commission and TERA have rightly observed that each additional cost

<sup>105</sup> Chorus (13 August 2015) at [345]-[347].

<sup>106</sup> WIK-Consult (12 August 2015) at [84].

<sup>107</sup> WIK-Consult (12 August 2015) at section 3.3.2; Spark (13 August 2015) at [342] and [346]; Vodafone (13 August 2014) at [C1.5].

<sup>108</sup> For example see Analysys Mason (13 August 2015) at [6.1]; see also Analysys Mason (24 September 2015) at [7.1.10] "comparing Chorus NRC data to randomly selected European countries is not robust".

<sup>109</sup> Between (€0 (\$0 NZD) - €111 (\$192 NZD)). However, we note that it is not clear whether the average connection charge in the EU survey is determined using the methodology adopted by WIK to determine Chorus' average charge.

<sup>110</sup> We note that, in any event, the charges for some of the surveyed countries may not be correct – for example, a 2013 OECD survey indicates that non-recurring connection charges for UCLL in Austria are set at €109 for site visits, and €31.50 in all other cases (the EU's survey cited by WIK suggests that the charge is €0): OECD *Communications Outlook 2013* (OECD Publishing, Paris, 2013) at table 2.7.

<sup>111</sup> And WIK and RSPs have argued elsewhere that the Commission should increase the level of scrutiny placed upon the comparability of its benchmarks, but make no attempt to do so here. For example, WIK note that it is inappropriate to incorporate Spain and Romania into the Commission's benchmark, yet those countries are included in the EU survey. See WIK-Consult (12 August 2015) at [90].

<sup>112</sup> We disagree with WIK's assertion that UCLL connection volumes incorporate UBA volumes: WIK-Consult (12 August 2015) at [97]. We understand that the UCLL volumes combine UCLL and UCLFS charges, but are otherwise accurate. We also note that it is not entirely clear that WIK has used the same methodology to determine a weighted average connection charge as has been used in the European Commission survey.

<sup>113</sup> WIK-Consult (12 August 2015) at section 3.2.2; Spark (13 August 2015) at [341] and [343]; Vodafone (13 August 2014) at [C3.2].

component is highly country specific,<sup>114</sup> and WIK concedes this is the case.<sup>115</sup> We agree with TERA (as do Analysys Mason)<sup>116</sup> that a failure to account for country specific characteristics risks significant inaccuracies in Chorus' wholesale price list. For example travel times, the market cost of labour and the costs associated with appointing civil subcontractors are fundamentally linked to New Zealand conditions. Benchmarking these components will tilt the charges further from the true efficient cost. [CI:

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### ***Adjustment of overheads***

#### *Service company overheads*

87 WIK and RSPs suggest that the Commission should revise service company overheads on the basis that the current overhead, set at [CI: ], is too high.<sup>117</sup> However, as Analysys Mason notes, the procurement process should be assumed to create a competitive overhead outcome. The LFC cross-check provides further evidence that the overheads are reasonable.<sup>118</sup>

88 In addition, service company overheads are based on a complex mixture of cost components. Most, if not all, cost components are highly country specific and not appropriate for international benchmarking. The Commission would need to determine that service companies in benchmarked countries split overheads and other cost components in the same way as New Zealand service companies. We doubt that sufficient evidence exists to undertake such a complex exercise.

89 There is currently an implicit adjustment in the service company overhead that Chorus can recover. The overhead is determined as a percentage of the service company charge. As the Commission's modelled service company charges are below actual costs, the HEO will under-recover actual service company overheads as well.

#### *Proposed adjustment to Chorus overhead*

90 RSPs and WIK argue that our overheads should be reduced on the basis that an HEO would have a greater level of IT automation and integration.<sup>119</sup> As Analysys Mason notes,<sup>120</sup> there are trade-offs between overhead costs and IT systems costs. Our systems are fit for purpose. The HEO cannot simultaneously have the lowest IT costs and the lowest overhead cost. In order to adjust Chorus' overhead to reflect a greater degree of IT automation, the cost of such automation would need to be reflected in the model.

<sup>114</sup> Commerce Commission, UCLL decision (2 July 2015) at [597]-[599]; TERA Consultants "TSRILC price review determination for the UCLL and UBA services non-recurring charges: methodology document" (April 2015) at section 1.2.1.1, page 13.

<sup>115</sup> WIK-Consult (12 August 2015) at [84].

<sup>116</sup> Analysys Mason agrees that benchmarking additional cost components could make the results even less robust. Analysys Mason (24 September 2015) at [7.1.10].

<sup>117</sup> WIK-Consult (12 August 2015) at [150]; Vodafone (13 August 2014) at [C3.2] and [C4.1(c)].

<sup>118</sup> WIK-Consult (12 August 2015) at [150]; Vodafone (13 August 2014) at [C3.2] and [C4.1(c)].

<sup>119</sup> WIK-Consult (12 August 2015) at [159]; Spark (13 August 2015) at [368]; Vodafone (13 August 2014) at [C4.1(d)].

<sup>120</sup> Analysys Mason (24 September 2015) at [7.1.2].

91 An HEO that replaces Chorus would also be a wholesale-only operator in the New Zealand context and would need to ensure open interfaces for everyone to use on a nationwide basis and meet STD and SLA requirements. In contrast, the benchmarks are for vertically integrated operators.

92 In addition, we note that:

the methodology adopted by TERA has already resulted in a reduction in our overheads from approximately [CI: ] to [CI: ], and any reduction in base transaction charges will reduce Chorus' overhead recovery proportionately;<sup>121</sup> and

Chorus' overheads do not include direct costs, as Vodafone suggests.<sup>122</sup> As we have noted previously,<sup>123</sup> the service company overhead represents charges by the service companies for their indirect costs. The internal overhead is Chorus' cost for our own back-office function.

### ***Indexing benchmarks with productivity factor or general reduction***

93 RSPs suggest that the Commission's raw benchmarks be indexed with a productivity factor, as many benchmarks are old,<sup>124</sup> and propose an additional adjustment of -3 to -5% per year to reflect efficiency improvements.<sup>125</sup>

94 While we do not support benchmarking, we agree (as do Analysys Mason) with TERA that using old data points is not necessarily incorrect, particularly for well-established and mature copper connections like Chorus'.<sup>126</sup>

95 We also do not support a 5% year-on-year efficiency adjustment. This is not supported by regulatory practice.<sup>127</sup> We note that unlike fibre, where we are still developing and evolving new systems and processes to support new technology, our processes for copper provisioning are well refined and cost improvements are difficult to find. A productivity factor to recognise improvements over time is therefore not appropriate. In fact many cost matters, such as labour costs, are likely to increase over the regulatory period and it is appropriate to apply an annual adjustment linked to changes in the Labour Cost Index.

### **Other efficiency issues**

96 RSPs have criticised Chorus' efficiency, particularly in relation to the mix of charges invoiced to our customers. These criticisms are not relevant to the efficient cost of the transaction charges themselves. As Analysys Mason notes, reducing the cost of the charges on the basis of these arguments would be illogical.<sup>128</sup> Analysys Mason

<sup>121</sup> TERA Consultants (April 2015) at section 3.1.

<sup>122</sup> Vodafone (13 August 2014) at [C3.3(c)].

<sup>123</sup> Chorus (9 October 2014) at [39].

<sup>124</sup> WIK-Consult (12 August 2015) at [162]-[169]; Spark (13 August 2015) at [349a]; Vodafone (13 August 2014) at [C3.3(a)].

<sup>125</sup> WIK-Consult (12 August 2015) at [162]; Vodafone (13 August 2014) at [C3.3(a)].

<sup>126</sup> Analysys Mason (24 September 2015) at [7.1.11].

<sup>127</sup> Analysys Mason (24 September 2015) at [7.1.13].

<sup>128</sup> Analysys Mason (24 September 2015) at [7.1.5].

also point out that we are incentivised to keep connection charges low as it is in our interest to have lines in service, in order to receive monthly revenue.<sup>129</sup>

97 Chorus also actively seeks efficiencies and is responsive to valid RSP concerns. For example, we seek efficiencies under our service company contracts,<sup>130</sup> and have on our own initiative introduced a number of efficiency improvements over the past few years. These initiatives have included an ordering optimisation project, work to improve record keeping processes, and upgrades to our IT systems to prevent inefficient RSP behaviour from generating unnecessary truck rolls. As we discuss further below, we are also committed to addressing areas for improvement, whether identified internally or by RSPs. Where issues arise from a fault in our systems, we have reimbursed the charges in monthly credits to RSPs.

98 Submitters have tried to muddy the waters based on anecdotal evidence that the mix of truck rolls and remote charges ordered by Chorus is inefficient.<sup>131</sup> The number of trucks rolled is irrelevant to whether the cost of a truck roll is efficient.<sup>132</sup> However, we also dispute the allegations of inefficiency.

99 Until 1 December 2014, Chorus could not charge separately for connecting UBA customers. RSPs did not face the cost of connecting end-users until 1 December 2014, so are only now aware of the cost for connections they order. In addition, there has been no change to the underlying service company costs.

100 Facing these costs for the first time caused some RSPs to query the proportion of truck rolls to remote connections being ordered. We responded promptly and undertook a comprehensive review. The review revealed:

Chorus could do some things differently to reduce the number of trucks rolled. We have implemented (or are in the process of implementing) these and have credited RSPs where issues arose as a result of system faults;

some discretionary alterations could be made to our ordering policies;<sup>133</sup>

actions RSPs can take to reduce truck rolls;<sup>134</sup> and

no evidence of systematic faults as RSPs now describe.

<sup>129</sup> Analysys Mason (24 September 2015) at [7.1.4].

<sup>130</sup> As we have described above at [78].

<sup>131</sup> CallPlus (13 August 2015) at [26]-[32]; Spark (13 August 2015) at [363]-[364]; Vodafone (13 August 2014) at [C2.5]-[C2.9].

<sup>132</sup> Analysys Mason (24 September 2015) at [7.1.5].

<sup>133</sup> We note that these policies were implemented for good reasons – for example, to reduce the failed install rate – and while we have agreed to change our approach, there is some risk that these amendments may result in increased failed installs

<sup>134</sup> RSPs previously did not face the direct cost of their own inefficient practices, so had no incentive to order connection services in an efficient way. Improving their own practices will enable RSPs to reduce the number of truck rolls and cabinet/exchange visits. We have advised RSPs how they can avoid these inefficient practices.

- 101 RSPs suggest that Chorus inefficiently reuses unutilised intact lines for occupied premises.<sup>135</sup> While Chorus does sometimes reuse intact lines, this was not identified as a meaningful contributor to the need for truck rolls in the recent review. Chorus also implements a 'stand down' period during which it will not reuse an intact. In any event, we disagree that re-use of intact lines represents a failure to manage the network efficiently.<sup>136</sup> It would not be efficient to leave an unused intact under-deployed when it was required for another end user and invest in additional copper capacity. Similarly, it would be inefficient to restore an intact when it is unknown whether and when it will be required by a new user.
- 102 RSPs say they have conducted their own truck roll and cabinet/exchange visit survey,<sup>137</sup> but the methodology and results of this survey have not been disclosed, making it difficult to comment. We also note that the survey took place before implementation of the review outcomes noted above, and that a number of these truck rolls may be attributable to the policy changes and inefficient RSP behaviours uncovered during the review.
- 103 Finally, RSPs have suggested that an HEO would have greater levels of automation and IT integration than Chorus.<sup>138</sup> However the costs of automation are significant and an efficient operator would not be able to automate 100% of processes.<sup>139</sup> For the most complex or lowest volume of transactions, the cost of automation will outweigh the benefits, and in addition, some decisions require manual processing. We believe we have struck an efficient balance in this regard for copper services. Further, an HEO would not deploy additional levels of automation without being able to recoup the cost of the investment. As Analysys Mason observe, a modelled operator cannot have the lowest IT cost, the lowest cost of spares, and the lowest transaction charges.<sup>140</sup>

#### **Points raised by RSPs falling outside of the FPP process**

- 104 RSPs suggest a number of additional amendments to the charges in the STD. Many of these changes cannot be made as part of the pricing review process.
- 105 RSPs also seek to set the transaction charge below TSLRIC cost or introduce non-price terms, in order to provide incentives to invest in capacity and technology. In our view, incentives to invest in the main network should be provided through an appropriate monthly charge. Deliberately setting one-off charges below cost is contrary to the requirement to set a cost-based price. Our views on specific RSPs suggestions are as follows.

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<sup>135</sup> Spark (13 August 2015) at [361(b)], [366(c)] and [367]; CallPlus (13 August 2015) at [31]-[32]; Vodafone (13 August 2014) at [C2.2(b)] and [C2.3].

<sup>136</sup> Chorus (16 October 2014) at [73].

<sup>137</sup> CallPlus (13 August 2015) at [26]-[32]; Spark (13 August 2015) at [363]-[364]; Vodafone (13 August 2014) at [C2.5]-[C2.9].

<sup>138</sup> WIK-Consult (12 August 2015) at [159]; Spark (13 August 2015) at [368]; Vodafone (13 August 2014) at [C4.1(d)].

<sup>139</sup> Chorus (16 October 2014) at [38].

<sup>140</sup> Analysys Mason (24 September 2015) at [7.1.2].



RSP submission	Our response
UCLL/UBA site connection charges (UCLL/UBA 1.1 site visit) be clarified that the charge only applies where premises connection at the ETP is required. <sup>141</sup>	This is outside the pricing review process and would need to be considered under a section 30R review.  As we have previously noted, the UCLL STD only applies where there is an intact in place. The definition in the UCLL STD makes this point clear. <sup>142</sup>
Adding High Capacity 10Gbps handover links to the regulated charges <sup>143</sup>	Amending the STD falls outside the pricing review process and would need to be considered under a section 30R review.
Adding a charge relating to undertaking site investigations to determine if network is available, and setting the price at \$0 <sup>144</sup>	Amending the STD falls outside the pricing review process and would need to be considered under a section 30R review.  Incentives to invest are better addressed by setting an appropriate monthly charge.
Adding a charge relating to providing capacity in order to re-connect a customer to the network and setting the price at \$0. <sup>145</sup>	Amending the STD falls outside the FPP process and would need to be considered under a section 30R review.  Incentives to invest are better addressed by setting an appropriate monthly charge.

### Other issues

RSP submission	Our response
Setting the UCLL cabinet exchange connection charge (UCLL 1.1 cabinet/exchange) at the charge for remote connection. <sup>146</sup>	This would be inappropriate as it would not represent the TSLRIC cost of providing the service. Incentives to invest are better addressed by setting an appropriate monthly charge.  In addition, Analysys Mason notes that this approach would require recovery of a higher level of spares as part of the Commission's model. <sup>147</sup>  We disagree that all technician visits to the exchange are driven by Chorus having removed an intact. For example, in the case of UCLL, a truck roll will be required to the exchange in almost all cases (unless it is a UCLL to UCLL move with the same RSP, and the RSP has disabled the former connection).

<sup>141</sup> Spark (13 August 2015) at [371(a)].

<sup>142</sup> Chorus (16 October 2014) at [72].

<sup>143</sup> Spark (13 August 2015) at [332(a)].

<sup>144</sup> Spark (13 August 2015) at [332(b)]-[334].

<sup>145</sup> Spark (13 August 2015) at [332(b)]-[334].

<sup>146</sup> Spark (13 August 2015) at [371(c)].

<sup>147</sup> Analysys Mason (24 September 2015) at [7.1.2].

<b>RSP submission</b>	<b>Our response</b>
Setting the UBA cabinet/exchange connection charge (UBA 1.1 cabinet exchange) at the charge for remote connection. <sup>148</sup>	This would be inappropriate as it would not represent the TSLRIC cost of providing the service.  Incentives to invest are better addressed by setting an appropriate monthly charge.  In addition, Analysys Mason notes that this approach would require recovery of a higher level of spares as part of the Commission’s model. <sup>149</sup>
Setting transfers between UBA service variants (UBA 1.9, 1.10) at the cost of a remote connection, because there should be no port change required at the exchange when transferring between UBA variants. <sup>150</sup>	This would be inappropriate as it would not represent the TSLRIC cost of providing the service.  While almost all transfers are currently charged at the remote connection fee, certain variants (such as baseband with UBA) require work at the cabinet in all cases.
RSPs suggest some charges should be set on a fixed basis rather than POA. <sup>151</sup>	We are happy to discuss this with RSPs and note that there is an annual requirement to review all POA charges and provide a fixed price where practicable.
RSPs have suggested amending the current bulk discount charges to reflect economies of scale. <sup>152</sup> For example, WIK refers to pricing structures in Germany that sets four tiers of prices depending on the number of clustered transactions. <sup>153</sup>	Bulk discounts are not widely used, because customer demand is difficult to direct and because Chorus is required to ensure that transaction charge services are undertaken within timeframes specified in the STD.  However, any comparison with other jurisdictions is inappropriate. Bulk discounts rely on sufficient value at a singular geographic location. Our ability (or an HEO’s) to accommodate bulk discounts is constrained for the reasons described above

<sup>148</sup> Spark (13 August 2015) at [371(c)].

<sup>149</sup> Analysys Mason (24 September 2015) at [7.1.2].

<sup>150</sup> Spark (13 August 2015) at [371(d)].

<sup>151</sup> Spark (13 August 2015) at [335]–[337]; WIK-Consult (12 August 2015) at [115]–[122].

<sup>152</sup> Vodafone (13 August 2014) at page 30; WIK-Consult (12 August 2015) at [108]–[114].

<sup>153</sup> WIK-Consult (12 August 2015) at [110].

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**PART THREE: FINAL PRICE REPLACES THE INITIAL PRICE**

106 The Act requires the substitution of the final price for the initial price as part of the pricing determination process. This will ensure the efficient price is set and beneficial incentives generated. Our view on this is consistent with what both the Commission and Court of Appeal said in 2006.<sup>154</sup> The Commission should not follow the suggestion of RSPs to rely on criteria not found in the Act.<sup>155</sup>

**Role of review process**

107 RSPs rely on a study by DotEcon which suggests that '*backdating*' occurs only in rare circumstances in other jurisdictions. However, the survey illustrates that different jurisdictions take different approaches to the operative date for pricing decisions, and that the approach is highly dependent on the regulatory context (in particular whether the pricing decision is retrospective). None of the international jurisdictions surveyed by DotEcon have the essential characteristics of the New Zealand price determination process under Part 2 of the Act, which are:

an initial price set using a "*relatively straightforward, modest exercise*";<sup>156</sup>

a limited time period in which *the parties* can apply for a review of the initial price using the final pricing principle; and

a final pricing principle that adopts a more sophisticated methodology to determine the efficient price for providing the service that will give effect to the section 18 purpose.<sup>157</sup>

108 The initial price is thus a proxy for the more sophisticated methodology if parties decide to initiate the review process. The review process enables the parties to access this price if they believe that the initial price is not efficient.

109 Importantly in the New Zealand context, substitution of the final price for the initial price is not retrospective, as confirmed by the Court of Appeal.<sup>158</sup> The initial price is always contingent on correction if a review is triggered, and substitution of the final price simply gives effect to that contingency. This distinguishes most decisions surveyed by DotEcon, which relate to retrospective pricing.

110 As noted by the Court of Appeal, there is nothing unusual in the New Zealand review framework. One analogy is with rent payable pending a rent review.<sup>159</sup> It is common practice for an interim rent to be paid in the period prior to the rent review determination, but the reviewed market rental still substitutes for the full rental period (typically with a wash-up payment).

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<sup>154</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006.

<sup>155</sup> For completeness, there is also no legal presumption (indeed, quite the opposite) to require a "*compelling reason*" for applying a start date prior to the date of the Commission makes its the final determination.

<sup>156</sup> *Chorus v Commerce Commission* [2014] NZCA 440 at [33].

<sup>157</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006 at [15].

<sup>158</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006 at [33].

<sup>159</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006 at [36].

- 111 The DotEcon survey itself indicates that a number of jurisdictions start pricing periods prior to the date of the determination where the earlier pricing is understood to be contingent on the outcome of the pricing decision.<sup>160</sup> This illustrates that the interpretation of the Act favoured by the Court of Appeal, Chorus and previously the Commission, is consistent with international regulatory approaches.
- 112 Notably, under the New Zealand scheme, it is *the parties* who must make the assessment of the efficiency of the initial price, and decide whether to apply for a pricing review within the statutory time limit.<sup>161</sup> This distinguishes the New Zealand pricing process from other jurisdictions where the setting of prices is solely a matter for the regulator.
- 113 In that context, DotEcon and Vodafone's suggestion that substituting the final price for the initial price would make the initial price redundant misunderstands the purpose of the two-tier pricing regime.<sup>162</sup> The purpose of the initial price is, as explained by the Fletcher Inquiry, to "*get sufficiently close to the 'efficient' price so that both parties accept the determination and decide not to progress to the (longer and more costly) pricing review determination*".<sup>163</sup> The initial price is therefore a part of the pricing process because it may mean that the expense of cost modelling can be avoided; *not* because it remains operative even if it is later determined not to be efficient.
- 114 Finally, Vodafone suggests that the Court of Appeal's view that substitution of the final price was required was confined to the facts of that case.<sup>164</sup> This is not correct: the Court's reasons rely on features of the statutory scheme for pricing review determinations, not any factual feature of the particular determination in that case.<sup>165</sup>
- 115 Vodafone relies on the Court's statement that "*in relation to the present matter, if a revised price were not to relate back that would in itself result in inefficiencies*".<sup>166</sup> However, this passage is not about requiring an assessment of the efficiencies of substitution in each particular case. "[T]he present matter" is a reference to pricing review determinations generally,<sup>167</sup> as is made clear by the Court's reason for its view: "*because the revised price must be more efficient than the initial price.*" This is true of any pricing review determination, given the final pricing principle's more sophisticated methodology.<sup>168</sup>

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<sup>160</sup> DotEcon (August 2015) at Annex: Supporting Material; see discussion on decisions in the Netherlands, Portugal, Ireland (USO funding) and Singapore.

<sup>161</sup> Telecommunications Act 2001, s 43(b): An application under s 42 must be made not later than 25 working days after public notice is given of the determination to which it relates.

<sup>162</sup> DotEcon "Backdating of FPP prices in New Zealand" (August 2015) at section 3, cited in Vodafone (13 August 2014) at [B4.15].

<sup>163</sup> *Ministerial Inquiry into Telecommunications* (27 September 2000) at page 47.

<sup>164</sup> Vodafone (13 August 2014) at [B1.4]-[B1.5].

<sup>165</sup> Chorus (13 August 2015) at [287]-[295].

<sup>166</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006 at [35].

<sup>167</sup> In contrast to other contingent assumptions taken into account in commerce (which Telecom had argued would result in inefficiencies).

<sup>168</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006 at [15].

**Efficiencies and incentives for investment**

116 DotEcon accepts that substituting the efficient final price for the inefficient initial price can set important incentives for the future. However, DotEcon argues that incentives will only be generated if a narrow set of conditions are satisfied, and are outweighed by the costs of pricing uncertainty pending the outcome of the pricing review determination. This analysis is inconsistent with the framework that the Commission is required to apply under the Act, and in particular gives insufficient weight to section 18 and the assurance function of the price review process.

117 The assurance function is about more than incentives in the period between the initial and final price determinations. In particular, the assurance function promotes investment at all times by assuring investors that, over time, prices will not be lower than an efficient level (i.e., the long-term return for investment in assets providing the services will be TSLRIC-based).<sup>169</sup> DotEcon does not address this issue.

118 As Sapere explain in their review of the DotEcon report,<sup>170</sup> the choice which DotEcon seek to establish in their report, between the beneficial incentives created by an assurance that the regulated price will be an efficient price, and cost certainty for RSPs pending the final pricing review determination, is a false choice. The Commission can provide a (time-adjusted) TSLRIC-based return to Chorus and address RSP concerns by separating its decisions into two steps:

the date which the regulatory period to which the final price applies (in our view, the period to which the initial price being reviewed applies, as mandated by the pricing review framework); and

the price profile or payment terms, which can be specified to address any legitimate concerns about the application of the final price from a date prior to the final determination, such as price certainty.

119 DotEcon and RSPs conflate these two steps into one issue of 'backdating' and thereby reduce the options available to the Commission.

120 We also think that substitution of the final price will create incentives on Chorus and RSPs to behave efficiently prior to the final price being known in a wider range of circumstances than DotEcon suggest. In particular, as Sapere explain,<sup>171</sup> the case for substitution is particularly strong in the present case for reasons which are not adequately addressed in the DotEcon report.

121 DotEcon argue that the expectation of substitution of the final price for the initial price can only incentivise efficient behaviour if the parties to a determination can:

predict that substitution will occur;

<sup>169</sup> Sapere "Economic comment on UCLL and UBA pricing issues" (11 August 2015) at [103]-[105].

<sup>170</sup> Sapere (24 September 2015) at [50]-[55].

<sup>171</sup> Sapere (24 September 2015) at [52]-[54].

correctly predict at what point in time the final price will be made operative;

predict the right price; and

be in a position to behave as if future prices already apply.

- 122 As a matter of logic, the precision of the DotEcon conditions does not make sense. For more efficient behaviour to be incentivised, the parties don't need to estimate the correct price – knowing whether the efficient price is likely to be higher or lower than the initial price is enough.
- 123 To take a simple example, assume the efficient monthly rental charge of a service is \$30, but the initial price, based on benchmarking, is only \$20. On the DotEcon approach, the expectation of substitution of a final price of \$30 will create incentives to act efficiently if parties predict that substitution will occur and that the final price will be \$30. However, outcomes closer to efficient outcomes in relation to investment and consumption decisions will be promoted if parties behave as though the operative price is likely to be closer to \$30 than \$20. It is better – i.e., parties' behaviour is more efficient – if parties expect that the price is \$21, \$25 or \$29 rather than \$20.
- 124 The expectation of substitution is likely to have a more pronounced effect where the efficient price is expected to be higher than the initial price. Various studies have shown there is a strong presumption that output prices tend to respond faster to input price increases than to decreases.<sup>172</sup> In other words, the incentives for RSPs to act efficiently for the long-term benefit of end users are stronger under the expectation that the efficient price is likely to be higher, rather than lower than the initial price.
- 125 In the present context there is significant evidence that RSPs knew (or ought to have known) both that substitution was likely to occur and the likely direction of the correction of the initial price:

RSPs were aware of the precedent supporting backdating;

from the outset of this process, we were clear that we expected the final price for the UCLL service to increase. Extensive market commentary was to the same effect;<sup>173</sup>

after the December draft determination, RSPs raised retail prices for broadband services.<sup>174</sup> RSPs were explicit at the Commission's conference

<sup>172</sup> See for example EAG Discussion paper: Sheldon Kimmel "Why prices rise faster than they fall" (July 2009) available at <http://www.justice.gov/atr/why-prices-rise-faster-they-fall>; Robert A. Ritz "The Simple Economics of Asymmetric Cost Pass-Through" (May 2015) available at <http://www.eprg.group.cam.ac.uk/wp-content/uploads/2015/05/EPRG-1511-PDF11.pdf>; R Bacon "Rockets & Feathers: The Asymmetric Speed of Adjustment of UK Retail Gasoline Prices to Cost Changes" (1990) available at <http://www.oxfordenergy.org/wpcms/wp-content/uploads/2010/11/EE10-RocketsandFeathersTheAsymmetricSpeedofAdjustmentofUKRetailGasolinePricestoCostChanges-RBacon-1990.pdf>.

<sup>173</sup> Chorus (20 February 2015) at n121.

that account had been taken of the draft determination.<sup>175</sup> Spark expressly stated in its recent Annual Results presentation that the rise in retail prices was "in anticipation of higher input prices from 1<sup>st</sup> draft FPP";<sup>176</sup> and

retail prices did not reduce in response to the initial pricing determination – which might suggest an expectation that prices could increase as a result of the pricing review.

126 The ability of RSPs to raise retail prices after December 2014 also indicates that, contrary to some submissions,<sup>177</sup> competition did not prevent RSPs from taking into account the likely effect of the substitution of the final price in their retail pricing. While short term gains in market share may be able to be made by not provisioning for contingencies, in the long term this is not a sustainable business strategy.

127 Against the positive incentives generated by substitution of the final price, DotEcon argues that the Commission ought to weigh the disadvantages of price uncertainty. Businesses routinely need to deal with uncertainty and make decisions to accommodate contingencies in pricing decisions. As noted by the Court of Appeal in 2006,<sup>178</sup> uncertainties as to costs are a common feature of commerce, and cannot outweigh the inefficiency of not applying the final price to the full regulatory period.

#### **The Commission's statutory target date and process delays**

128 This pricing review determination also has the feature of delay – something DotEcon identifies from its international survey as supporting the application of a price to a period prior to a determination.<sup>179</sup>

129 The Commission was obliged to use reasonable endeavours to complete its price review for UBA by 1 December 2014.<sup>180</sup> The time taken cannot be explained by the novelty of the process. At conference, all international experts stated that a new TSLRIC model for a country that had not previously undertaken the exercise would be between one to two years.<sup>181</sup> Had the Commission achieved its statutory target for the UBA pricing review, and taken a conventional period of time to complete its UCLL pricing review, both final prices would have been determined by December 2014. While the statutory target date has not been met, the Commission can still give effect to Parliament's intent by adopting an earlier start date for the final price.

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<sup>174</sup> See for example New Zealand Herald "Internet companies set to hike prices next month" (7 January 2015) available at [http://www.nzherald.co.nz/business/news/article.cfm?c\\_id=3&objectid=11382722](http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11382722).

<sup>175</sup> Commerce Commission "UCLL and UBA services final pricing principle conference" (transcript, 15-17 April 2015), see Graham Walmsley (CallPlus) at pages 246, 247 and 249; Tom Thursby and Chris Abbott (Vodafone) at pages 247 and 248; John Wesley-Smith at page 247 (Spark).

<sup>176</sup> Spark "FY15 Financial results: Investor presentation" (2015) available at [investors.sparknz.co.nz/Investor-Centre/?page=Presentations---Webcasts](http://investors.sparknz.co.nz/Investor-Centre/?page=Presentations---Webcasts) at page 26.

<sup>177</sup> See for example CallPlus (13 August 2015) at [58].

<sup>178</sup> *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006.

<sup>179</sup> DotEcon (August 2015) at [2.2.3].

<sup>180</sup> Telecommunications (TSO, Broadband, and Other Matters) Amendment Act 2011, s 77.

<sup>181</sup> Commerce Commission (transcript, 15-17 April 2015) see Karl-Heinz Neumann (WIK) at page 426; James Allan (Analysys Mason) at pages 426 – 427.

- 130 As recognised by the Commission in 2006, it is not simply delays that result from parties' behaviour that are of concern to an applicant: the party advantaged by the review should not be deprived of the benefits by delays beyond its control.<sup>182</sup> Delay should not cause any party to lose the benefit of the pricing review determination for which they have applied.
- 131 In its UCLFS decision, the Commission adopted an earlier start date because the failure to update the price at an earlier time resulted from a Commission error.<sup>183</sup> The basis for distinguishing between a failure to update an initial price and a failure to complete a final pricing review at the time the Commission intended target is not apparent. Both arise from circumstances outside of the parties' control.
- 132 In the case of the UCLFS decision, we submitted that the price reductions should not be backdated. We argued that, because the changes arose from a review commenced by the Commission at its discretion, the case for backdating was less compelling than in the statutory defined two stage pricing determination process.
- 133 Spark argued for backdating, submitting that backdating was consistent with the legal framework, and was important to the integrity of the regulatory regime.
- 134 The Commission decided to backdate the new pricing some 17 months. It said:<sup>184</sup>
- In a declaratory judgment proceeding relating to an FPP review, the Court of Appeal concluded that the purpose of section 18 would be better served by backdating the prices to the start of the initial determination because this would result in a more efficient price between the access seeker and the access provider. We consider that the same reasoning may well be applicable to the backdating of the UCLFS prices in this case.*
- 135 The Commission should take the same approach here. To take a different approach because, for the first time, Chorus would benefit from the backdating, is lacking in principle, and will compound the perception, expressed in submissions by investors in these proceedings, that the "regulatory process is biased against the regulated entity."<sup>185</sup>

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<sup>182</sup> Commerce Commission "Submissions of the first respondent" in *Telecom New Zealand Ltd v Commerce Commission* CA75/05, 25 May 2006 (1 February 2006) at [38].

<sup>183</sup> Commerce Commission "Review of the Standard Terms Determination for Chorus's Unbundled Low Frequency Service under section 30R of the Telecommunications Act 2001" [2014] NZCC 9 at [75].

<sup>184</sup> Commerce Commission [2014] NZCC 9 at [73].

<sup>185</sup> L1 Capital (13 August 2015) at page 1.



## APPENDIX A: SUMMARY OF CHORUS POSITION

136 RSP submissions to a large extent repeat arguments previously made and responded to in earlier submission rounds. Rather than repeat our previous responses, we provide the following summary of Chorus' positions on key issues, with a cross-reference to previous submissions where our view is explained in detail.<sup>186</sup>

### UCLL

Issue / Input	Chorus position	Previous submission references
<i>UCLL MEA</i>	<p>Select the MEA with the lowest cost to end-users that is capable of providing the full functionality of the existing UCLL and SLU services.</p> <p>Even if the Commission adopts a "core functionality" approach, the core functionality of the UCLL service must include the ability of the service to be unbundled at Layer 1. Fixed Wireless Access (<b>FWA</b>) therefore cannot be in the MEA.</p> <p>The Commission can reasonably conclude that, once higher costs of operating multiple technologies are accounted for, an HEO would rationally choose a single technology rather than adopting a different MEA on an ESA by ESA basis. Alternatively, if multiple MEA were used, the additional costs of managing multiple technologies must be accounted for.</p>	<p>11 April 2014 from [46]; 6 August 2014 from [29].</p> <p>20 February 2015 from [82]-[83], Appendix A.</p> <p>20 March 2015[78]-[81]</p>
<i>Performance adjustments</i>	No adjustments based on technological performance or consumer preference.	Analysys Mason (12 February 2014) [1.5.1].
<i>Network footprint</i>	Model a network capable of providing the UCLL and SLU services to all end-users to whom Chorus may be obliged to provide the service under the Act and STD.	6 August 2014 from [241], 20 February 2015 [86]-[87].
<i>Optimisation</i>	<p>Use a scorched node approach and:</p> <ul style="list-style-type: none"> <li>do not optimise exchange boundaries (given limitations on available techniques to address geographic complexity). The algorithm used by the Commission is likely to cause error because it does not take all major geographical constraints into account; and</li> <li>account for equivalent spare capacity in the FTTH network as an HEO would prudently account for this from an engineering perspective.</li> </ul>	20 February 2015 [93.3]; 13 August 2015 [50]; Analysys Mason (12 February 2014) [1.8.2]; Analysys Mason (11 August 2015) [2.2].

<sup>186</sup> The references in the table are intended to be representative, rather than a comprehensive list of all relevant submissions we have made and supporting material we have provided on a specific topic. In particular, we provided submissions on TSLRIC framework issues throughout 2014 and 2014, on which we rely, but which are not all included in the table.

Issue / Input	Chorus position	Previous submission references
	<p>The Commission cannot optimise away elements of the service to be costed: this includes handover points to which Chorus is (and any HEO would be) required to provide the service (such as MDF and FDS).</p> <p>An optimisation approach that minimises total cost rather than route length is preferable.</p>	<p>20 March 2015 [100].</p>
<p><i>Capital contributions</i></p>	<p>Include the capital costs of all assets required to provide the UCLL and SLU services to all end-users to whom Chorus may be obliged to provide the services under the Act and the STD. The TSLRIC of the service cannot be reduced by an assumption that they will be funded by hypothetical contributions.</p> <p>Further, assessing contributions with reference to contributions that Chorus may have received in the past is inconsistent with a forward-looking, long-run approach.</p> <p>If capital costs are excluded, use of the areas in which Chorus is obliged to maintain network used to serve end-users in December 2001 (the <b>TSO areas</b>) as a proxy for where contributions would not be sought may be better than other possible proxies, but:</p> <ul style="list-style-type: none"> <li>• the TSO areas should be corrected to include all end-users' locations existing in December 2001, connected to relevant Exchanges buildings; and</li> <li>• the assumed capital contribution should be implemented as a 'one-off' payment.</li> </ul> <p>Costs of lead-ins and post-2001 subdivisions should not be excluded. Chorus has not fully recovered these costs and no HEO would do so given the need to connect all demand.</p> <p>Funding received by Chorus and other network providers for UFB and RBI deployment is not relevant to the Commission's TSLRIC exercise, and does not relate to the costs for the services being assessed.</p>	<p>20 February 2015 [95]-[105], Appendix B; 13 August 2015 [55]-[79].</p> <p>20 March 15 [125]-[127]; 13 August 2015 [76]-[79].</p>
<p><i>Trenching costs</i></p>	<p>Adopt the best evidence of forward-looking build costs. Chorus' UFB and RBI data is the best available evidence of a current, nationwide, network build and which takes account of New Zealand's geographical conditions and cost constraints.</p> <p>Analysys Mason's analysis of national trenching rate takes proper account of urban and rural areas, including carefully ring-fencing the impact of the higher cost centres of Wellington and Auckland so the national rate is not distorted.</p> <p>If Beca cost estimates are used, then corrections need to be</p>	<p>20 February 2015 Appendix C: [411]-[418]; 20 March 2015 [148]-[151]; 13 August 2015 [80]-[110].</p> <p>13 August 2015 [104]-</p>

<b>Issue / Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
	<p>made to the model, including:</p> <ul style="list-style-type: none"> <li>• adjusting the model so that the deployment costs reflect that the cheapest method may not always be used;</li> <li>• recognising some trenching methods, such as mole plough and chain digging, cannot be used where there are existing underground services;</li> <li>• ensuring that drilled holes can physically accommodate duct size;</li> <li>• correction of the harmonic weighting calculation; and</li> <li>• accounting for the cost of laterals.</li> </ul> <p>No additional 'bulk order' discounts for scale are able to be achieved beyond those reflected in Chorus' trenching costs.</p>	[110].
<i>Trenching sharing</i>	<p>Chorus accepts that a limited degree of trench sharing should be allowed for – in the range of 5%.</p> <p>Benchmarking of trench sharing achieved in other jurisdictions is in appropriate, as it fails to take into account differences in the relevant regulatory regimes and the practical difficulties of achieving shared trenching in New Zealand.</p>	20 March 2015 [128]-[145].
<i>Equipment costs</i>	<p>Chorus list prices reflect international prices and discounts that an operator on the scale of the HEO would be able to achieve in New Zealand. No further adjustment based on international benchmarking is appropriate.</p>	20 March 2015 [154]-[161].
<i>Omitted costs</i>	<p>Include arborist costs, aerial cables, overhead costs, handling fees and cable hanging/mounting fees for fibre cable costs included in Chorus' price lists and installation costs for copper and fibre cabling.</p>	13 August 2015, [111].
<i>Modelling issues</i>	<p>Revisit the mapping of buildings to road sections to ensure buildings are allocated to the closest road section as set out in the Analysys Mason report.</p> <p>Appropriately account for laterals and lead-in assets on rights-of-way as set out in the Analysys Mason report.</p>	13 August 2015, [113]-[114]; Analysys Mason (11 August 2015) [2.1]-[2.5].
<i>Aerial deployment</i> <ul style="list-style-type: none"> <li>• <i>Extent</i></li> </ul>	<p>Reduce the extent of aerial deployment in the Commission's model to reflect real world evidence (both of Chorus UFB/RBI deployment and statements from Vector) that a greater proportion of available electricity distribution poles cannot be economically used for telecommunications network deployment.</p>	20 February 2015 from [495]; 13 August 2015 [115]-[120].
<i>Aerial</i>	<p>Ensure that the full costs of securing nationwide access to electricity distribution poles are included in the model.</p>	20 February 2015 [481]-[493]; 13 August 2015

<b>Issue / Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
<p><i>deployment</i></p> <ul style="list-style-type: none"> <li>Costs</li> </ul>	<p>Use a weighted average of access charges, rather than the cheapest per pole price charged in any region, and include the following omitted costs:</p> <ul style="list-style-type: none"> <li>surveying and pole assessment costs; and</li> <li>resource consenting costs.</li> </ul> <p>We draw to the Commission's attention the adjustment to the weighted average pole rental set out in our s 98 response dated 24 September 2015.</p>	<p>[121]-[128].</p>
<p><i>Fixed Wireless Access modelling</i></p>	<p>FWA should not be included in the MEA, as it is not capable of meeting either the full or core functionality of the UCLL service.</p> <p>If FWA is included in the model it should be, at the most, at the geographic margins of the network, consistent with regulatory precedent and the services currently capable of being unbundled. The Commission's selection of voice only or low speed broadband lines is a reasonable proxy for where FWA could be deployed.</p> <p>If FWA is to be included then adjustments should be made, including to:</p> <ul style="list-style-type: none"> <li>the throughput assumption to reflect the expected demand for the UBA service in the regulatory period;</li> <li>assumed sharing of infrastructure which cannot be shared in practice;</li> <li>include the costs of the active electronics which are currently omitted;</li> <li>coverage assumptions (many more base stations are required);</li> <li>the cost of spectrum – which must reflect the full opportunity cost; and</li> <li>include the full costs of providing voice and data services over FWA.</li> </ul> <p>The Network Strategies model is flawed and not capable of robustly modelling costs of FWA deployment.</p>	<p>28 February 2014 [27]; 6 August 2014 [225]-[228]; 20 February 2015, Appendix F; 20 March 2015 [171]-[196]; 13 August 2015 [129]-[136].</p> <p>Analysys Mason (20 March 2015) [2.3]; Analysys Mason (11 August 2015) [7.9]-[7.10].</p>
<p><i>Operating costs</i></p>	<p>Use Chorus' actual operating costs as the starting point for its analysis. In addition:</p> <ul style="list-style-type: none"> <li>a fibre efficiency adjustment of 40% is not appropriate and is applied to costs which are not technology dependent. Evidence indicates an adjustment of between 15% and 30% following a shift from legacy copper assets to fibre assets may be appropriate;</li> </ul>	<p>20 February 2015 [166]-[190]; 20 March 2015 [197]-[211]; 13 August 2015 [137]-[144].</p> <p>Analysys Mason (20 March 2015) [4.2];</p>

<b>Issue / Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
	<ul style="list-style-type: none"> <li>do not take into account exceptional short term effects on a single foreign operator to reduce Chorus' long term opex based on the LFI adjustment; and</li> <li>appropriately account for the higher opex for aerially deployed network, based on publicly available ARMIS data which indicates at 27% increase in annual maintenance cost for the Commission's chosen level of aerial network.</li> </ul> <p>Use of Chorus' actual costs is consistent with regulatory precedent and is better evidence of the costs of operating a network in New Zealand than international benchmarking.</p>	Analysys Mason (11 August 2015) [5.1]-[5.2].

**UBA**

<b>Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
<i>UBA "Additional costs" MEA</i>	MEA for the "additional costs" of providing the UBA service based on Chorus' existing FTTCN/Copper network.  There is no requirement for the "additional costs of UBA" MEA to be based on delivering the service over the UCLL MEA).	20 March 2015 [212]-[219]; 13 August 2015 [147]-[150].
<i>Optimisation - Throughput</i>	Model the "additional costs" so that it is sensitive to throughput.  The Commission's model should account for throughput effects on the subrack chassis and RSP ports on the first data switch as set out in the Analysys Mason report.	20 February 2015 [196]-[206], Appendix G; 13 August 2015 [151]-[158].
<i>Optimisation - General</i>	The Commission cannot optimise away elements of the service to be costed, including the FDS.  Greater optimisation of active and passive equipment would involve use of multiple manufacturers equipment, contrary to what an efficient HEO would do, and make no allowance for growth in demand.	20 March 2015 at [222]-[232].
<i>Equipment costs</i>	Use Chorus' list of prices for equipment costs. These take account of the discounts that an operator of scale is able to achieve in New Zealand. No further adjustment based on benchmarking is appropriate.	20 March 2015 at [233].
<i>Omitted costs</i>	Include omitted costs for design, testing and commissioning of new assets and correct direct units costs as set out in the Analysys Mason report.	13 August 2015 [168]-[171]; Analysys Mason (11 August 2015) [4], [4.1.2], [4.1.4].

<b>Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
<i>Modelling issues</i>	Use correct cost data, spare capacity and handover connection issues identified in the Analysys Mason report.	13 August 2015 [172]-[173]; Analysys Mason (11 August 2015) [4.3]-[4.4].
<i>Capital contributions</i>	<p>Capital costs required to deliver the UBA service cannot be removed from the TSLRIC on the basis of assumed capital contributions.</p> <p>No account should be taken of the funding recovered through the RBI initiative. In particular, DSLAM costs were not funded by the RBI initiative, and their exclusion reduces the monthly rental charge beyond what it would have been had Chorus not participated in RBI.</p>	20 February 2015 [216]-[222]; 20 March 2015 [118]-[122]; 13 August 2015 [159]-[167].
<i>Cost allocation (bitstream and other services)</i>	<p>Allocate costs using a capacity based approach where sufficient data is available.</p> <p>Where insufficient data on capacity exists (the costs of fibre between DSLAM and cabinet, and cabinet and FDS), allocate costs based on TERA recommendations.</p> <p>Cost of leased lines are addressed appropriately by the Commission.</p>	20 February 2015 [223]-[226]; 20 March 2015 [234]-[242]; 13 August 2015 [174]-[176].
<i>Cost allocation (unregulated bitstream)</i>	Account for any demand for unregulated bitstream services during the regulatory period by undertaking a review of the cost allocation between regulated and unregulated services if and when required.	20 March 2015 [227]-[229].
<i>EUBA variants</i>	Provide price differentiation between EUBA service variants contained in UBA STD. Differentiation between prices of different options (setting 'price gradients') using initial benchmarking is appropriate.	20 February 2015 [230]-[231]; 20 March 2015 [243]-[244]; Analysys Mason (20 March 2015) [3.12].

### Common issues

<b>Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
<b><i>Asset valuation</i></b>		
<i>Asset valuation</i>	Select Optimised Replacement Cost ( <b>ORC</b> ) methodology, consistent with the Act's requirement to model forward-looking TSLRIC and with the Commission's concept of HEO.	14 February 2014 [65]-[68]; 28 February 2014 [29]-[66]; CEG (August 2014) [1.3 (4)], [2.1 (8)]-[2.1(12)]; 20 March 2015 [285]-[288]; 13

Input	Chorus position	Previous submission references
		August 2015 [178]-[180].
<i>Re-use of assets</i>	Valuation of stranded or re-used assets at historical cost is inconsistent with TSLRIC.	20 February 2015 [90]; 20 March 2015 [289]-[297] CEG (August 2014) [1.3 (4)], [2.1(8)]-[2.1(12)].
<b>WACC</b>		
<i>Risk-free rate / TAMRP</i>	Either: <ul style="list-style-type: none"> <li>• adopt a long average risk-free rate, consistent with its historically averaged TAMRP; or</li> <li>• if the Commission prefers to estimate the risk-free rate based on prevailing rates, make a compensating adjustment in the TAMRP to reflect the inverse relationship between bond yields and the TAMRP</li> </ul> Regardless of approach, update Dr Lally's estimate of the TAMRP to reflect more recent data, and make methodological adjustments to the manner in which different estimates are weighted in the average estimate.	13 August 2015 [186]-[218]; CEG (August 2015).
<i>Asset beta</i>	An asset beta of at least 0.53 is appropriate, having regard to a longer time series when estimating the asset beta.	13 August 2015 [219]-[225]; CEG (February 2015); CEG (August 2015).
<i>Leverage</i>	Adopt notional leverage of 50%, to more closely reflect Chorus' actual leverage, in line with international regulatory precedent. The Commission's assumed rating isn't consistent with other HEO assumptions – it cannot be financed on the basis the Commission has assumed.	20 February 2015 [581]-[595]; 13 August 2015 [226]-[228].
<i>Other parameters</i>	Credit rating: A credit rating of BBB- is more appropriate. Debt swap costs: Assess the costs of entering into swap contracts at between 10 and 13 basis points. Debt issuance costs: At least 0.35% per annum should be used. Term: 10 years, consistent with the debt raising practices of a wide sample of international telecommunications firms, including those in the Commission's comparator group.	20 February 2015 [596]-[620]; 13 August 2015 [229]-[232]; CEG (February 2015).
<i>Allowance for asymmetries</i>	Address estimation error in setting the WACC through selection of a higher percentile than the mid-point of the WACC, consistent with:	20 February 2015 [621]-[687]; 20 March 2015 [270]-[283]; 11 May

<b>Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
	<ul style="list-style-type: none"> <li>• CEG's implementation of the Dobbs model; and</li> <li>• Oxera's analysis of the case for a WACC uplift (as reviewed by CEG and Sapere).</li> </ul> <p>Refinement of the Oxera analysis indicates the WACC percentile demonstrates a higher percentile of around the 75<sup>th</sup> percentile is appropriate.</p> <p>A WACC uplift is required to provide investment incentives, consistent with sections 18(1), (2) and (2A).</p>	2015; 13 August 2015 [233]-[269].
<b>Other common issues</b>		
<i>Demand</i>	Use the best available forecast of the HEO's or Chorus' demand. Demand served by non-Chorus Local Fibre Companies ( <b>LFCs</b> ) or hybrid fibre-coaxial ( <b>HFC</b> ) should be excluded.	20 February 2015 [294]-[302]; 20 March 2015 [209]-[326]; 13 August 2015 [270]-[275].
<i>Price trends</i>	Adopt a weighted PPI series tailored to the cost of trenching, in preference to the indices utilised by NZIER, which include a number of activities unlikely to be representative of trenching costs.	13 August 2015 [276]-[278]; CEG (August 2015).
<i>Asset lives</i>	Recognise uncertainty in asset lives when calculating the revenue required to compensate Chorus for assets under ORC by calculating an average annuity across a range of asset lives.  Asset stranding risk due to technology change is not addressed in Chorus' accounting asset lives.	13 August 2015 [279]-[280];
<i>Constant price</i>	Adopt a constant price.	13 August 2015 [281].
<i>Commencement of final price</i>	<p>The final price should be substituted for the initial price from the date of the initial price determination or, at the latest, 1 December 2014.</p> <p>The Commission's TSLRIC model should be calibrated to calculate the final price as at the date it becomes operative, with a longer regulatory period allowed for as a result.</p> <p>Payment of any additional differences between the final and initial price should be implemented as a lump sum repayment rather than clawback. Chorus will offer a repayment scheme based on the creditworthiness of the RSP. The repayment scheme will be at a fixed rate of interest and the repayment term will be agreed with each RSP.</p>	20 February 2015, Part 4; 20 March 2015, Part 4, 13 August 2015, Part 4
<i>Regulatory period</i>	The regulatory period needs to be calibrated to recognise the substitution of the final price.	13 August 2015 [327]-[330].



## Non-recurring charges

<b>Issue / Input</b>	<b>Chorus position</b>	<b>Previous submission references</b>
<i>MEA</i>	Determine activities for non-recurring charges by reference to the activities on the actual copper network.	13 August 2015 [338].
<i>Outsourcing</i>	Assume an HEO in New Zealand would outsource its network provisioning and fault operations, as it would achieve lower costs running a competitive tender between service companies with specialist skills.	9 October 2014 [32]. 13 August 2015 [338].
<i>Overall approach to NRC</i>	Start with service company charges, adjust for overheads and implement a mechanism to reflect changes in underlying cost inputs.	13 August 2015 [340]-[378].
<i>Efficiency adjustment</i>	Service company charges reflect efficient costs, as they have been set through a competitive tender process.  An efficiency adjustment that reduces the rates by on average 30% is unrealistic and there is no evidence an HEO operating in New Zealand could achieve this level of efficiency.	13 August 2015 [362]-[367]; Analysys Mason (11 August 2015) at [6.2].
<i>Benchmarking</i>	Benchmarking is not appropriate in a final pricing review, as cost-based prices for non-recurring charges consistent with TSLRIC are required. There is no evidence tasks from benchmarked countries are comparable to New Zealand, and a number of New Zealand specific factors impact average task times for a number of non-recurring charges.	13 August 2015 [340]-[378].
<i>Weighted average charge</i>	A weighted average national service company is susceptible to error of volumes of services allocated to each CSA change.	13 August 2015 [368]-[372].
<i>Service company overheads</i>	It is appropriate for Chorus to be able to pass on the cost of service company overheads.	13 August 2015 [373]-[374].
<i>Labour cost index adjustment</i>	It is appropriate to continue to apply an annual adjustment linked to changes in the Labour Cost Index.	13 August 2015 [387].
<i>Structure of NRCs</i>	The structure of the non-recurring charges in the STDs should not be changed – there is no practical benefit, plus there are costly implications for Chorus and RSP operational systems and processes.	9 October 2014 [51], [54]; 13 August 2015 [338].
<i>Bulk discounts</i>	Bulk charges and batching rely on sufficient volumes at the same geographic locations. This does not happen often in a cabinetised network.	9 October 2014 [60].

**APPENDIX B: THE TSO DECISION**

- 137 The Supreme Court's judgment in *Vodafone New Zealand Ltd v Telecom New Zealand Ltd*<sup>187</sup> (the **TSO decision**) does not establish any general legal principle applicable across regulatory regimes irrespective of the pricing principle and purpose to be applied:

the plurality of the Supreme Court expressly state that the resolution of the appeal "will have no value as a precedent because of the unique nature of the Part 3 regime";<sup>188</sup>

the plurality are also clear that there was no error in interpretation in the Commission's approach to Part 3. Rather, the Commission's error was in the application – an error in the second *Edwards v Bairstow* sense;<sup>189</sup>

it follows from the plurality's reasoning that any attempt to reason by analogy to the TSO decision must carefully consider both differences in statutory context and the facts of the given case if an equivalent error of application is to be established.

- 138 Both the statutory text of the relevant pricing principle and purpose are different in Part 2 of the Telecommunications Act 2001, compared to the Part 3 provisions considered in the TSO decision:

the final pricing principle to be applied is TSLRIC, which is defined as "the forward looking costs" over the long run. The definition of 'net cost' in Part 3 contained no equivalent pricing principle and, as implemented by the Commission, was inconsistent with core assumptions regarding TSLRIC that are now accepted by the Commission and all parties; and

as expressly acknowledged by the plurality in the *TSO decision*, the section 18 purpose statement that applies to Part 2 did not apply to Part 3.<sup>190</sup>

- 139 The Commission and parties' experts have addressed the meaning of TSLRIC from an economic perspective, and considered valuation methodologies within that framework. In addition, Chorus' experts have specifically addressed the concern that ORC necessarily generates windfall gains for the incumbent, and concluded that there is no evidence this is the case.<sup>191</sup> Spark agreed at Conference that ORC would equate to DORC, if used correctly constructed economic depreciation methods.<sup>192</sup>

<sup>187</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC).

<sup>188</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [64].

<sup>189</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [65].

<sup>190</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [24].

<sup>191</sup> CEG "Non-replicable assets and forward-looking cost" (August 2014) at [2.5] and [44]; Incenta Economic Consulting "TSLRIC for UCLL Service – Asset Valuation Issues" (28 February 2014) at [1.2.4].

<sup>192</sup> Commerce Commission (transcript, 15-17 April 2015) see Anton Nannestad at page 108 (Spark).

140 Consistent with the last point, the reasoning of the plurality in the TSO decision is inapplicable given the Commission's approach to selection of MEA (which is supported by RSPs):

the plurality's concern was with "*artificially revaluating old assets (already wholly or partly depreciated) which were in reality not likely to be replaced and optimised*", such as installed copper wire, in a context where the 'efficient service provider' was supposed to be a proxy for the TSO provider;<sup>193</sup>

that concern does not arise in the context of a TSLRIC assessment where the HEO is accepted not to be a proxy for Chorus but rather replaces it, and the Commission has selected a MEA which differs from the technology actually used by Chorus to provide the service;

put another way, the valuation of the assets in the Commission's model do not involve revaluating 'old assets' used by Chorus, because the Commission is (a) modelling different replacement assets using a different technology, and (b) adopting a significant degree of optimisation; and

similarly, unlike in the Part 3 context, no issue arises in the context of TSLRIC of revaluation gains in the event that adjustments to the MEA are made in future.<sup>194</sup> It is accepted that, applying TSLRIC, each regulatory period must be assessed afresh without regard to previous MEA choices.

141 Notably, as explained by CEG at the Commission's Conference on the December draft determination,<sup>195</sup> the implementation of ORC proposed by the Commission (with revaluations in subsequent regulatory periods, and a (titled annuity) depreciation to reflect expected revaluation) is in fact consistent with the Johnstone article cited with approval by the plurality of the Supreme Court in the TSO decision.<sup>196</sup> The criticism of ORC by Professor Johnstone was in the specific context of a RAB setting with no revaluations in future regulatory periods and the adoption of straight line depreciation.

142 It is also consistent with the expert evidence given by Professor Balchin.<sup>197</sup> In summary, ORC is appropriate in a forward looking TSLRIC setting, rather than ODRC which may be more appropriate in a RAB setting, and there is no sound basis to assume windfall gains.

<sup>193</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [70].

<sup>194</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [75].

<sup>195</sup> Commerce Commission (transcript, 15-17 April 2015), see Jason Ockerby (CEG) at pages 92-93.

<sup>196</sup> *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2012] 3 NZLR 153 (SC) at [72]; David Johnstone "Replacement Cost Asset Valuation" (University of Bath School of Management CRI International Series 8, 2003) at pages 17-18.

<sup>197</sup> See also Incenta Economic Consulting (28 February 2014) at [1.2.5].