

VODAFONE NEW ZEALAND LIMITED
CROSS SUBMISSION
TO THE NEW ZEALAND COMMERCE COMMISSION



On Submissions to the:
PROCESS PAPER AND DRAFT PRICING REVIEW
DETERMINATIONS FOR CHORUS' UNBUNDLED COPPER LOCAL
LOOP AND UNBUNDLED BITSTREAM ACCESS SERVICES
(excluding TSO Boundary considerations)

Public version

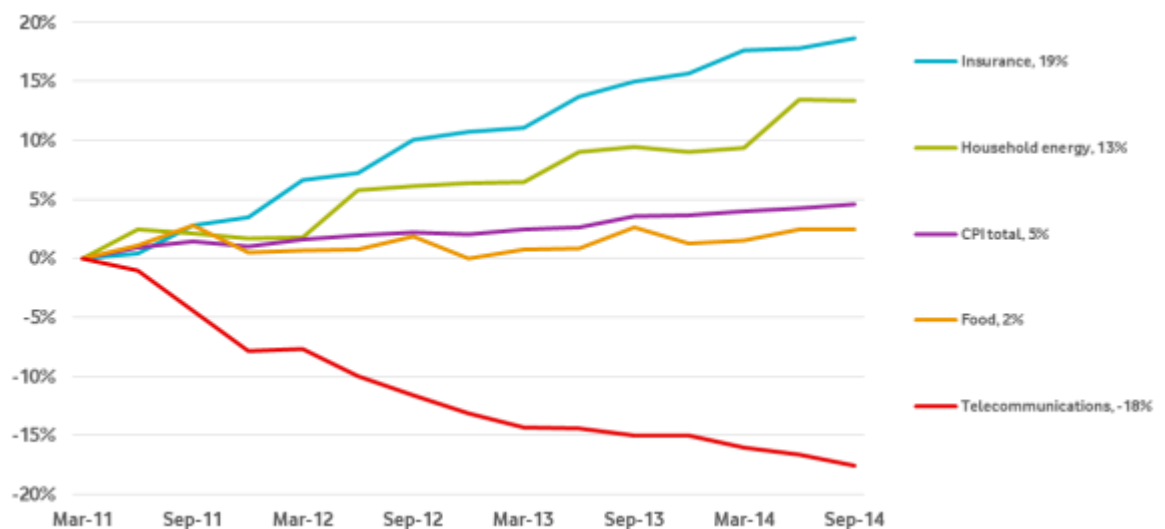
20 March 2015

Executive Summary

- (i) In November 2011, the structure of New Zealand's telecommunications market shifted fundamentally. Chorus emerged as a wholesale-only provider, owning the only ubiquitous fixed access network in New Zealand (and on track to hold the lion's share of New Zealand next-generation fibre access network).
- (ii) The task of pricing access to the ubiquitous copper network sits, appropriately, with the Commission. It has been a long, but important process. In New Zealand, there is no credible scope for infrastructure-based national competition in fixed access: a market which underpins a highly competitive retail market. Put simply, delivering great retail broadband services to Kiwi families and businesses is dependent on a quality wholesale access regime that delivers fair prices.
- (iii) There is a lot at stake. As other submissions identify, the Commission's draft prices (and even more so, the prices suggested by Chorus and its experts) risk a major transfer of wealth from New Zealand consumers and businesses to Chorus' shareholders. All with no justification for how that will serve the long-term benefit of end-users – the cornerstone requirement of the Commission's task in this pricing review.
- (iv) Because of this, Vodafone and other RSPs have contributed significantly by reviewing and commenting on the Commission's draft decision, including through providing the expert support of WIK-Consult (**WIK**) and Network Strategies (**NWS**). This work has identified material concerns with the Commission's approach (and TERA's modelling). If not addressed, these will result in regulated prices that depart materially from TSLRIC requirements. In sum, the current approach risks severely over-stating the prices access seekers must pass on to consumers.
- (v) As Spark has identified, the Commission's draft UCLL price is 80% higher than the median price for the same service in the countries we compare ourselves against, and 60% higher than the most expensive country surveyed. That's a significant burden for Kiwis to bear, and there's nothing we know about building networks in New Zealand – or from reviewing the Commission's analysis and subsequent submissions – that supports this.
- (vi) As set out in our earlier submissions, this is largely driven by the cumulative effect of conservative (and at times unorthodox) assumptions in the Commission's modelling: whether that be limiting sharing or asset reuse, arbitrarily constraining the use of FWA, or permitting the full re-valuation of what in reality is fully depreciated infrastructure.
- (vii) Despite all of this, Chorus and its advisors point the Commission towards higher prices still. We calculate this is likely to deliver a windfall in excess of \$3 billion to Chorus' shareholders through to 2018. This is more than its entire current annual revenue, with no logical link to further investment or better outcomes for the users of telecommunications services. While any reasonable investor would welcome such a windfall, Chorus' assertion that such a premium on the already-high draft prices reflects reasonable investor expectations is baseless.
- (viii) While Professor Hausman, for Chorus, provides a useful reminder on the importance of investment (and incentives to invest), his paper ignores the commercial reality of the New Zealand market. Structural separation combined with government subsidies for fibre investment means simply that the consequence of over-recovery by Chorus is a pure wealth transfer.

- (ix) This is the very opposite – despite Chorus’ assertions – to the effect of lower prices (through appropriate changes to the Commission’s cost model) on the retail market. Both in theory and in practice, as demonstrated below, competitive retail broadband markets have an established history of passing on the benefits of innovation and lower costs to end-users, through both lower prices and better services.
- (x) While reflecting of the total consumer telecommunications market (both fixed and mobile), Statistics New Zealand’s reporting provides a clear demonstration of the considerable value New Zealand retail service providers continue to deliver to end-users of telecommunications services:

Figure 1: Decreasing Telecommunications prices contrast with increasing CPI



Source: Statistics New Zealand

- (xi) Accordingly, while this submission (and the expert reports which support it) addresses the issues arising out of the materials submitted by Chorus, Vodafone’s principal point remains that the draft prices are too high. As such, Chorus’ drive for *even higher* wholesale costs for the essential broadband services – on which, ultimately, most Kiwis rely – must be read against the tide of earlier submissions which points the Commission toward lower prices in the first place.
- (xii) With that in mind, and in light of the material received in response to the Commission’s draft determination, we make the following recommendations:

Section	Recommendations
B Competitive retail markets and pass-through	R1 Suspend reaching any view on backdating of UCLL and UBA prices set via this FPP price review process unless and until it has completed a much fuller analysis of implementation issues and competition effects associated with its decision.
C Relevance of investment incentives and risks	R2 Make the adjustments recommended in the NWS Report (20 February 2015) at [10.1]
	R3 Do not make any additional uplift in circumstances where its modelling choices already operate in favour of Chorus
	R4 Reject predictability as not appropriate as a defining goal of the FPP price review processes, given the nature of TSLRIC exercise.

	R5	Reject Chorus' fibre investment as a decisive factor in FPP price review processes. In particular, the Commission must not adopt as an objective ensuring that copper prices will always exceed UFB prices.
	R6	If considering Chorus' fibre investment pursuant to section 18(2A), give proper and equivalent consideration to all other categories of investment that meet the criteria in this provision.
D Pricing policy aspects of UCLL and UBA pricing	R7	Undertake a proper consideration of the risks to the NZ economy of losing dynamic efficiency if UCLL and UBA prices are set too high.
	R8	Retain the principle of competitive neutrality and do not rebalance UCLL and UBA prices for external public policy reasons.
	R9	Do not uplift TSLRIC prices to account for asymmetric risk.
E Modelling the network – general concerns	R10	Continue to model the HEO's, and not Chorus', demand, and so do not exclude 'LFC areas' that will be served by the HEO.
	R11	Assume an increasing demand trajectory, consistent with current connection data and industry projections.
	R12	Accept that CEG has not provided sufficient compelling evidence for the Commission to replace NZIER's price trend estimates with those provided by CEG.
	R13	Accept that CEG's long-term estimates place are overly reliant on historical data.
	R14	Accept that price series have been constructed by linking data with differing sources, definitions and time periods, which leads to series of questionable quality.
	R15	Consider (absent more source of forward looking data) the additional benchmark data used in the models of the Danish, Norwegian and Swedish regulators.
	R16	Base common cost allocation across UCLL and UBA on the attributable costs of these services.
	R17	Do not exempt individual OPEX items from the LFI adjustment.
	R18	Assess (independently or with TERA) the efficiency or otherwise of Chorus' operations.
	R19	Apply a conceptually robust approach for OPEX adjustments, such as a mark-up based on CAPEX.
	R20	Avoid double cost recovery by considering all capital contributions, whether related to Government-funded infrastructure deployment, end-user contributions or received under the TSO.
F UCLL - MEA network design	R21	Retain an FTTH and FWA MEA for UCLL because it meets the core functionality test and reflects the technology choice an HEO would be expected to make.
	R22	Ensure lead-ins are modelled in the most efficient manner possible.
	R23	Reject Chorus' assertion that engineering and dimensioning rules should be tuned upward to raise prices.
	R24	Adjust its assumptions to fully account for potential cost-savings from sharing, including through trench sharing and parallel installations.

	R25	Adjust cost cable cost assumptions from the incumbent downwards, because HEO scale would deliver further reduced supplier prices.
G UBA - MEA network design	R26	Reject Chorus' assertion that additional costs for the replacement of backhaul links during the regulatory period are required.
	R27	Reject Analysys Mason's approach to FDS interlinking dimensioning and adopt a lower growth rate (40%) for busy hour usage.
	R28	Additional costs for further SFP dimensioning, installation and indirect capital costs are not required.
H Re-use of aerial assets	R29	Do not assume away the existence of electricity distribution businesses, and their already-built aerial networks.
	R30	Accept that an HEO must by definition share existing infrastructure where it makes economic sense to do so, rather than undertaking a new joint build.
	R31	Accept that sharing cost faced by an HEO would reflect the marginal additional cost to an EDB of hosting the HEO's lightweight fibre cables along its own existing distribution network.
	R32	Accept that an HEO will deploy in a world in which the proposed National Environmental Standards are adopted.
	R33	Rely on deployment information for aerial cabling for fibre networks already carried out by Northpower, and planned by Vector. Aerial costing information from EBDs is more relevant than cost information on Chorus's poles, which are not suitable to convey both electricity distribution and telecommunication fibre cables.
I Trenching costs	R34	The per meter trenching cost already includes all necessary management of trenching activity, or costs arising from challenges faced in urban areas. So to include a separate additional costs for these for management of the construction work would be double counting.
	R35	The HEO is deploying nationally, and so will have negotiating power in dealing with trenching contractors, who themselves will achieve economies of scale in laying trenches.
	R36	Chorus' proposed trenching rate of \$[redacted] [CNZCI] for Auckland CBD must be disregarded. Beca's trenching rates are estimated to be inflated.
J Fixed Wireless Access	R37	Increasing throughput assumptions is not necessary as sufficient network capacity will exist to cater for the HEO customers' throughput growth, and even allowing for a generous 20% year-on-year capacity growth would result in prices still below the Commission's current model.
	R38	For FWA modelling, do not include the cost of equipment and installation at customer premises, nor the cost of core network infrastructure.
	R39	Assume the existence of mobile networks and their existing infrastructure, and accept that an HEA deploying FWA would share both spectrum and masts.
	R40	Accept that co-location charges, rather than build costs, are most material to the HEO's cost for FWA masts. Spectrum fees should be a rental fee paid to mobile operators rather than assuming an FWA operator would compete for a national spectrum licence against mobile operators.

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- R41 LTE-advanced technology should be assumed. Our own OPEX costs should be included in the Commission's model, rather than higher benchmarks from overseas;
- R42 Recognise that coverage and availability concerns have been properly addressed in our own FWA radio propagation modelling exercise: allowing 100% coverage and reflecting local New Zealand deployment costs
- R43 Accept that a network optimisation design and costing exercise is necessary to inform where a profit maximising HEO would deploy FWA in lieu of fixed lines.
- R44 Adopt the approach of our FWA propagation modelling exercise and NWS' cost calculations: all coverage and availability issues have been considered, and the FWA calculation will integrate with TERA's fibre model.
-

K WACC

- R45 Retain the current approach to estimating the WACC, which we believe is appropriate. Do not adopt CEG's benchmark analysis of benchmarks.
- R46 Use forward looking estimates of the asset beta the most recent data available.
- R47 Do not adopt Chorus' submissions on the cost of debt: electricity gentailers face higher regulatory risk than Chorus. Debt issuance costs should be spread across seven years. The Commission should update its survey on the benchmark term for the cost of debt.
- R48 Do not apply an uplift to the WACC: asymmetric risk already features in the WACC component calculations and estimations.
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(xiii) As highlighted in our February Submission:

- (a) These recommendations are evidence-based, will bring the Commission's calculation closer to the TSRIC for an HEO deploying MEA and, critically, are feasible for TERA to implement within or alongside the existing model. We understand the challenges the Commission faces in carrying out a TSLRIC exercise, and look forward to continuing engagement as this process continues.
- (b) The Chorus network cost models developed by Analysis Mason do not represent an HEO deploying a MEA network, are fundamentally inconsistent with the Commission's criteria and principles for a TSLRIC calculation, and are wholly unsuitable to inform the TSLRIC modelling that the Commission is required to perform.

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A Introduction

- A1.1 Vodafone welcomes the opportunity to comment on the submissions made to the Commission's draft UBA and UCLL price determinations and accompanying reports released on 2 December 2014.
- A1.2 This submission does not include our complete comments on matters relating geo-spatial modelling, in respect of which the Commission has given an extension to 12pm on 2 April 2015. We will provide supplementary cross-submissions (including expert reports) relating to geospatial modelling before the Commission's extended deadline for those submissions.

A1 Consultation documents

- A1.1 Submissions were made on 20 February 2015 in response to:
- (a) The Commission's Draft pricing review determination for Chorus' unbundled copper local loop service (**Draft UCLL Determination**);
 - (b) The Commission's Draft pricing review determination for Chorus' unbundled bitstream access service (**Draft UBA Determination**);
 - (c) **TERA's Model Reference Paper, Model Specification and Model Documentation**;¹
 - (d) Beca's FPP Corridor Cost Analysis (**Beca Report**);² and
 - (e) Ingo Vogelsang's TSLRIC implementation report (**Vogelsang Report**).³
- A1.2 In addition to its own reports, the Commission also made available Analysys Mason's models commissioned by Chorus and the **Chorus UCLL TSLRIC user guide** and **Chorus UBA TSLRIC user guide** and these documents were also addressed in submissions.

A2 Submissions

- A2.1 This cross submission responds to submissions made to the consultation documents above, which included:
- (a) Chorus' submission on draft determinations for UBA and UCLL services (**Chorus February Submission**);
 - (b) Analysys Mason's report on behalf of Chorus for UBA and UCLL services draft determinations (**Analysys Mason February Submission**);
 - (c) The three CEG reports on behalf of Chorus on WACC, Price Trends and on Uplift;

¹ TERA *Model Reference Paper* (public version), November 2014, TERA *Model Specification* (public version), November 2014 and TERA *Model Documentation* (public version), November 2014.

² Beca *FPP Corridor Cost Analysis of Trenching and Ducting Rates in NZ*, November 2014.

³ Ingo Vogelsang, *Current academic thinking about how best to implement TSLRIC n pricing telecommunication network services and the implications for pricing UCL in New Zealand*, 25 November 25 2014.

- (d) Professor Hausman's report on behalf of Chorus on Uplift for UBA and UCLL services draft determinations (**Hausman February Submission**);
- (e) L1 Capital's submission on draft determinations for UBA and UCLL services (**L1 Capital February Submission**);
- (f) WIK's report dated 20 February (**WIK February Submission**);⁴
- (g) NWS' report (**NWS February Submission**)⁵ and its report on modelling fixed wireless access (**NWS February FWA Submission**), both dated 20 February;⁶ and
- (h) Our own submission (**Vodafone February Submission**).

A3 Expert Reports

- A3.1 This submission should be read along with expert reports prepared by WIK and NWS (**WIK Cross Submission** and **NWS Cross Submission**).

A4 Structure of this submission

- A4.1 This cross submission addresses the following issues raised by comments in submissions on the Draft UCLL and UBA Determinations and accompanying reports, and covers:

Section B	Competitive retail markets and pass-through, including the implications of backdating.
Section C	The relevance of investment incentives and risks to the Commission's TSLRIC calculation.
Section D	General concerns including potential impacts on market development, the welfare implications of an uplift and the statements made on asymmetric risk.
Section E	Modelling concerns including estimation of demand, asset prices, treatment of OPEX and common costs, and the exclusion of capital costs.
Section F	Modelling a modern equivalent asset network for UCLL.
Section G	Modern equivalent assets for UBA.
Section H	Sharing aerial networks.
Section I	Trenching cost estimation.
Section J	Appropriate inclusion of Fixed Wireless Access.
Section K	WACC and risk.

⁴ WIK-Consult, *Submission In response to the Commerce Commission's "Draft pricing review determination for Chorus' unbundled bitstream access service" and "Draft pricing review determination for Chorus' unbundled copper local loop service" including the cost model and its reference documents*. 19 February 2015.

⁵ Network Strategies, *Commerce Commission Draft Determination for UCLL and UBA, A review of key issues*, 20 February 2015.

⁶ Network Strategies, *Modelling Fixed Wireless Access, UCLL and UBA Final Pricing Principle*, 20 February 2015.

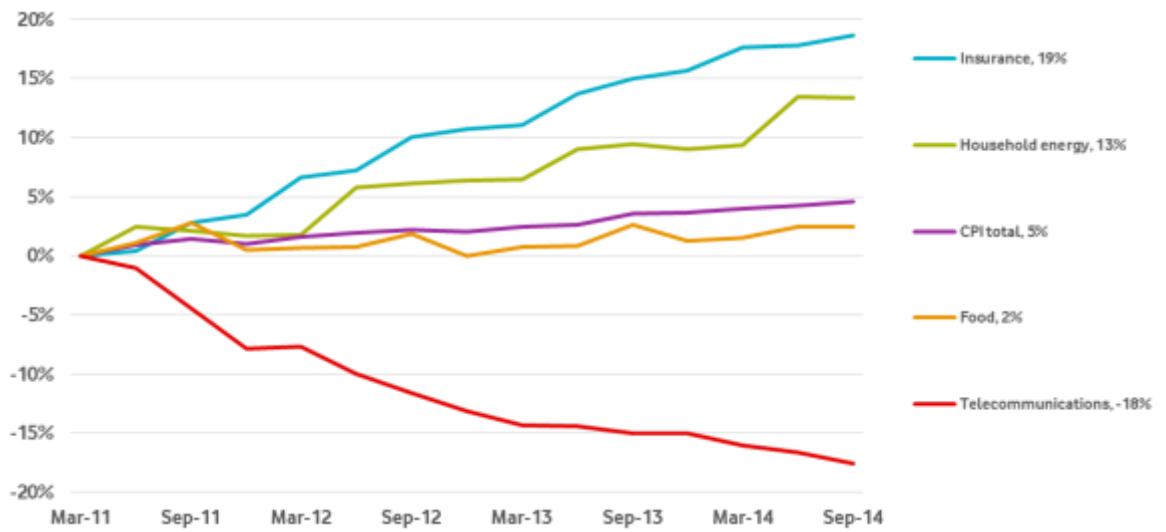
B Competitive retail markets and pass-through

B1 Retail competition in fixed broadband market

- B1.1** It has been suggested that cost-based UCLL & UBA prices would not deliver any impact or benefit to end-users, and would simply represent a windfall to retail access seekers, with a wealth transfer from Chorus to RSPs. This is incorrect from both a theoretical and real-life perspective.
- B1.2** Prices that are set above TSLRIC cost will deliver, by definition, a windfall gain to Chorus – gains that cannot be competed away given the competitive bottleneck of Chorus' fixed access network. Chorus is precluded from offering retail broadband services, and Chorus' UCLL & UBA is an essential input to providing retail copper-based broadband services. As a result, above cost UCLL & UBA represents a direct wealth transfer from end-users to Chorus.
- B1.3** In contrast, in the competitive retail fixed broadband market, we expect to see changes to underlying UCLL and UBA prices benefiting end-users through a combination of changes in prices, bundles, contention, speed, data allowances and other benefits end-users value.
- B1.4** This can be evidenced by the changes in the retail fixed broadband market. Competitive offers and reduced prices has continued since separation, despite no underlying change to Chorus UCLL & UBA prices until December 1, 2014. The Commission's own analysis has shown that, over the past two years, the ranking of New Zealand broadband plans have improved when compared to OECD equivalent plans.⁷ The Commission also released its IPP determination in 2012, with anticipated price changes being factored into retail broadband packages.
- B1.5** Changes to an individual input price may not have an instantaneous effect in a competitive market - due to 'menu costs' associated with every change in retail price offerings - however end-users clearly ultimately get the benefit over the long-term through aggressive retail competition causing cost-reflective pricing. Just as the cost of a flat white does not fluctuate daily with the regularly changing cost of coffee beans and milk, competition means that ultimately end-users benefit over the long term – be it the retail price, ambience of the café or quality of espresso machine.
- B1.6** In the New Zealand context, we continue to see decreasing retail prices brought about by retail price competition. Telecommunications sector prices are decreasing over time while the Consumer Price Index for other key goods and services increases.

⁷ Commerce Commission, International Price Comparison for Retail Fixed-line Telecommunications Services 2013.

Figure 2: Decreasing Telecommunications prices contrast with increasing CPI



Source: StatisticsNZ.

B1.7 Vodafone has calculated the 3-month rolling average reduction in ARPU (**Average Revenue Per User**) for all our customers where broadband is provided using Chorus' network. This analysis across the full bundle of Vodafone broadband customer plans (naked and clothed) over wholesale access show marked price deflation. This analysis understates the benefits to end-users such as significant increases in data allowances over that time.

[VFNZCI]

B2 Backdating and pass through

B2.1 The Draft UCLL and UBA Determinations provided extremely limited reasoning in support of its emerging view that backdating to 1 December 2014 should occur, with further reasons to be provided in a further draft determination to be issued in May 2015. As set out in the Vodafone February Submission, we do not support backdating of the FPP decisions, nor the preliminary limited reasoning provided. Backdating would be a pure wealth transfer to Chorus and cause significant inequity for access seekers, and therefore consumers, given the difficulty of setting retail prices that are subject to backdated charges which are uncertain as to quantum and timing.

B2.2 Chorus February Submission argues that retail price changes indicated in the draft determinations are:⁸

opportunistic, given that there is no evidence that retail prices for these services decreased as a result of either the UCLL or UBA IPP determinations”.⁹ Chorus then state “there is no evidence that consumers have benefits even in the short term from lower prices as a result of the UCLL IPP re-benchmarking determination (or an expectation of an inefficiently low UBA price from 1 December 2015.

B2.3 Chorus appears - understandably given it is not in the retail market - to ignore the significant retail reductions experienced since structural separation and that the retail market has factored in expected reductions, signalled in the IPP decision in December 2012 – a full two years before price changes took effect in December 2014.

B2.4 Chorus acknowledges the potential financial impact of backdating on RSPs, and suggests that further consideration of mechanisms to mitigate the impact on RSPs may be appropriate. While Vodafone agrees that such a mechanism may be necessary, it is essential that the Commission first sets out reasoning in its further draft determination supporting its emerging view around backdating.

B2.5 Chorus fails to address the practical constraints of RSPs setting prices when their input prices are subject to backdated charges which are uncertain. Contracts with end users, coupled with strong competition in retail markets, prevent access seekers from passing FPP price adjustments from being passed on retrospectively (or prospectively, for the term of any fixed contract with end users). Chorus’ suggestion does not ultimately address or resolve these fundamental issues which militate against backdating.

B2.6 Vodafone intends to engage fully with the issue of backdating once the Commission has provided fuller reasons in support of its emerging view on backdating, which we expect to see in the further draft determinations expected in May 2015.

⁸ Chorus February Submission at [331].

⁹ Chorus February Submission at [325].

Recommendation 1 Suspend reaching any view on backdating of UCLL and UBA prices set via this FPP price review process unless and until it has completed a much fuller analysis of implementation issues and competition effects associated with its decision.

C Relevance of investment incentives and risks

C1 Overview

- C1.1 Chorus argues that UCLL and UBA prices set by the Commission affects investment not only in these regulated services, but particularly Chorus' investment in UFB services.¹⁰
- C1.2 In addition, it argues that UCLL and UBA prices will determine incentives for:
- (a) network build and innovation by other network operators; and
 - (b) end user migration to fibre services.¹¹
- C1.3 On this basis, Chorus argues in favour of the Commission "erring on the high side" when estimating the TSLRICs of UCLL and UBA services, and applying deliberate uplifts at other steps of its analysis.
- C1.4 As we said in our primary submission, the Commission's application of TSLRIC methodology is characterised by a series of choices that operate in favour of Chorus. Cumulatively, these choices do not yield an approach that can be considered orthodox and do not produce a central estimate of the true TSLRICs. Rather, the approach generates TSLRIC prices calculation that pushes the upper bound. Having taken this approach, the Commission cannot – as urged by Chorus – apply a further uplift in its calculation of TSLRICs. Doing so, where these calculations are already inflated by the use of conservative assumptions, results in substantial overcompensation for the same risks.

C2 Section 18

- C2.1 Consideration of investment incentives and risks arises under section 18(2A) of the Telecommunications Act 2001 (**the Act**). The Commission notes that:

Section 18(2A) requires us to consider the "incentives to innovate that exist for, and the risks faced by, investors in new telecommunications services that involve significant capital investment and that offer capabilities not available from established services." A determination that undermines incentives to invest would deter future investment and so would likely undermine competition over the long-term.

- C2.2 Section 18(2A) is not directive as to the categories of investment that should be considered by the Commission in making a determination. It would be open to the Commission to confine its consideration of incentives to innovate and risks faced by investors only to new telecommunications services that utilise the inputs that are currently subject to consideration,

¹⁰ Chorus February Submission at [62].

¹¹ Chorus February Submission at [63].

i.e. copper UCLL and UBA services. Confined in this way, the Commission should only consider how UCLL and UBA prices might affect incentives to innovate and risks faced by investors in new copper based services that utilise UCLL and UBA wholesale inputs. For example, the incentives for access seekers to further unbundle exchanges using VDSL technologies.

- C2.3 Indeed, if Chorus was not currently engaged in the deployment of UFB, the Commission would have to limit its consideration under section 18(2A) to copper based services.

C3 Chorus' profitability and investment feasibility

- C3.1 Chorus is a highly profitable company when compared to its peers: interim FY2015 results show an EBITDA margin of 60.9%, one of the highest EBITDA margins of any telecommunications carrier in the world. WIK inform us that EBITDA margins for European incumbent operators trade at EBITDA margins between 30% and 50%. Similarly, an EBIT margin of 30.7% is one of the highest among comparable telecommunications operators.¹²

- C3.2 In light of these healthy financial returns, Chorus' argument that it requires a further uplift on the level of compensation calculated with reference a modern fibre network, but actually compensating it for the provision a legacy copper network, is pure rent-seeking and cannot be supported.

C4 Balancing interests of investors and consumers

- C4.1 TSLRIC pricing is designed to balance the interests both of infrastructure investors and consumers who have no alternative but to use the monopoly infrastructure. As Vogelsang describes:

*TSLRIC are consistent with competition in the market and for the market and ... provide sufficient investment incentives for incumbents, for potential access seekers (both downstream and for make or buy) and for intermodal competitors.*¹³

- C4.2 WIK makes a powerful point: the concept of TSLRIC loses these credentials and economic distortions will occur if deviations from cost-based pricing are introduced. All aspects of Chorus' 'uplift' discussion would lead to such distortions.¹⁴

- C4.3 CEG states that an uplift is required to provide '*incentives for Chorus to continue to maintain and invest in its copper network in the long run.*'¹⁵ This statement ignores that TSLRIC pricing – without uplifts – is already designed to achieve exactly that aim and more: Chorus will be compensated for the efficient costs of deploying an advanced fibre network, which WIK estimate at three times the value of assets invested in its copper network and moreover, copper network investment can realistically be assumed to decrease over time. In addition, as NWS observes:¹⁶

as a result of its own commercial choices Chorus does not have strong incentives to invest in the copper network (apart from in a minority of areas where it did not secure a UFB contract), regardless of

¹² WIK Cross Submission, section 2.6.1.

¹³ Vogelsang Report at [3].

¹⁴ WIK Cross Submission, section 2.1.

¹⁵ CEG Uplift Submission at [3]

¹⁶ NWS Cross Submission, section 6.2.

any regulatory incentives. It does, however, have strong incentives to maximise returns from the legacy network.

- C4.4 When considering the revenues necessary for an owner of legacy infrastructure (who is facing technological change and migration to a new infrastructure) to maintain the legacy infrastructure, WIK explains that to maintain the legacy network the owner must cover its own short run incremental cost and the infrastructure's opportunity cost, which together will be well below the TSLRIC of the MEA equivalent infrastructure. Thus incentives to maintain legacy infrastructure will exist even if access prices are below the TSLRIC of the MEA infrastructure. This further removes the case for an uplift when calculating TSLRICs.
- C4.5 Moreover, as highlighted in our previous submission, the use of ORC asset valuation for a mostly depreciated infrastructure results in overcompensation to the asset owner. Chorus' recent financial results reveal a planned \$60-\$75 million CAPEX on the copper network for FY2015, and \$530-\$550 million CAPEX on its fibre network. Thus Chorus' submissions on the FPP price's impact on investment incentives are clearly not grounded in reality.

C5 Predictability

- C5.1 The Commission's consideration of section 18(2A) occurs through a lens of 'predictability', which it adopts as an objective for the reasons that: *"[p]redictability supports investment incentives (as explained above), which in turn supports competition for the long-term benefit of end-users."*¹⁷
- C5.2 We accept that predictability is desirable as a regulatory objective. But it should not be adopted as the sole objective of the FPP price review process or be the single criterion by which the Commission measures whether a TSLRIC outcome will give effect to its primary duty under section 18(1).
- C5.3 As we have already argued, it is not the Commission's role when determining FPP prices for UCLL and UBA services to make decisions in a manner that ameliorates any uncertainties that may arise from the regulatory approach or framework embodied in the Act. Moreover, there is no necessity for it do so. As NWS observes, it was always known that a shift from retail-minus to cost-based prices could have significant implications, involving a risk that copper-based wholesale prices could be significantly below the contractually agreed fibre prices.¹⁸
- C5.4 As the Vodafone February Submission said, the Commission's prioritisation of 'predictability' creates identical problems to those attending the previously employed 'reasonable investor expectations' concept. In each case, a single value is adopted as a decision making objective¹⁹ on the assumption that it will give effect to the Commission's primary duty under section 18(1). However, in both cases there is simply no explanation or evidence to demonstrate how this natural course will follow or evidence to show how, in fact, either value actually does best promote competition for the long term benefit of end users.

¹⁷ Draft UCLL Determination at [131]; Draft UBA Determination at [101].

¹⁸ NWS Cross Submission, section 6.3.

¹⁹ *"Ensuring that businesses have incentives to invest is therefore important for the promotion of competition for the long-term benefit of end-users. It follows that giving effect to regulatory predictability is likely to give effect to the section 18 purpose statement"* (Draft UCLL Determination at [131]; Draft UBA Determination at [101]).

- C5.5 Predictability is, as the WIK Cross Submission notes, meaningless as a concept in the context of the determining TSLRICs of the UCLL and UBA services. The very purpose of the FPP price determination process is to alter the basis of pricing (i.e. transition from international benchmarking to cost modelling). There is, by definition, no predictability in the outcome of this transition given the nature of a TSLRIC modelling process that may incorporate many different input parameters each with significant impact and for which there is no template approach.²⁰ The model architecture, the level of efficiency modelled and the parameters all have material effects on results - as the actual modelling status and the comments of stakeholders prove.
- C5.6 Moreover, we do not understand how the Commission can make any meaningful assessment of predictability – in the sense of achieving an outcome that supports incentives to innovate and accounts for risks faced by investors – where it cannot make an assessment of what investors’ expectations are now (and were previously), which it concedes it can’t.²¹ While it remains unclear which investors the Commission has in mind, and what their expectations are (and were), it is unclear on what basis the Commission can reasonably conclude that “*[p]redictability supports investment incentives...which in turn supports competition for the long term benefit of end users.*”²²
- C5.7 Since the Commission started its statutory re-pricing of copper services, arguments have been put forward that there was some form of implicit expectation around future copper prices at the time of structural separation. This is despite explicit legislative changes to the Act giving rise to the current Commission price changes and pricing review (clearly defined regulatory processes under the Act), and specific guidance provided during structural separation. Any criteria of predictability cannot be breached on the basis that any implicit ex ante expectation by investors on copper prices post separation differs from the Commission’s draft decisions that follow the express requirements in the Telecommunications Act

C6 Investment within the New Zealand policy setting

- C6.1 Hausman’s argument is an interesting theoretical exercise in support of the argument that an uplift is needed to avoid access seekers purchasing copper-based access rather than ‘*building an alternative fibre-based network.*’²³ However, it completely ignores New Zealand’s institutional and policy environment, and on this basis fails the ‘real world’ test that Chorus submits all analysis must be held to.
- C6.2 Network Strategies notes that the Hausman February Submission does not discuss the implications for costing wholesale copper access in New Zealand, with one exception, and presents a very one-sided and incomplete discussion with:

*...little appreciation of current New Zealand market conditions, including the implications for Chorus, unbundlers and access seekers of the change in legislation in 2011 to accommodate the national UFB initiative. He also ignores current concerns of international regulators that in fact TSLRIC approaches may be over-compensating incumbent access providers.*²⁴

²⁰ WIK Cross Submission, section 1.1.2.1; Vodafone submission (20 February 2015), [B2.12] – [B2.13].

²¹ Draft UCLL Determination at [183]; Draft UBA Determination at [153].

²² Draft UCLL Determination at [131]; Draft UBA Determination at [101].

²³ Hausman February Submission at [vi]

²⁴ NWS Cross Submission, sections 6.2 and 6.7.

- C6.3 It is not realistic to assume wide-scale UFB network duplication in New Zealand. The current FTTP deployment has come about as a result of significant subsidy and investment from the New Zealand Government through the UFB programme, and specific further incentives such as wholesale mass market access being limited to layer two fibre bitstream access until 2019. Given the level of subsidy made, it is simply unrealistic to anticipate deployment of a second unsubsidised wide-scale FTTP network.
- C6.4 Investment in fibre is not an aim of the Commission's FPP price setting process: the UFB programme is underway with roll out footprint beyond that which a commercial profit maximising operator would deploy, enabled via capital contributions by central Government. As highlighted by WIK: *'the investment incentives for Next Generation Access in (NGA) are settled in New Zealand'*²⁵ Indeed, Chorus and LFCs have committed to these investments via agreements with the Crown, with positive incentives for holding to these commitments. The outcome of the Commission's FPP process does not, and cannot, alter the operation of these incentives.
- C6.5 Given TSLRIC is designed to compensate for the costs of an existing network, WIK poses the question of whether there are further investments that the TSLRIC pricing should be designed to cover. We agree with:
- (a) WIK's conclusions that *"there is no reason to distort (or uplift) the wholesale pricing system in New Zealand to artificially generate additional investment incentives."*²⁶
 - (b) NWS's conclusions that: *"It is not the Commission's role to set relativities between copper and UFB prices, or to set 'high copper prices' as a way of ensuring that copper prices will always exceed UFB prices, whatever they may be in the future. Furthermore, if it attempted to do so, the Commission would face a similar problem as seeking to encourage unbundling through this price review – that is, it might not achieve the objective and the outcome may simply be a wealth transfer with end-users paying more."*²⁷
- C6.6 We say that concern for Chorus' fibre investment cannot be a decisive factor in the context of a TSLRIC exercise focussed on the costs faced by an HEO providing the relevant copper services using an MEA, and any uplift intended to assure fibre investment by Chorus is wholly inappropriate.

C7 Conclusion

- C7.1 If the Commission does consider it appropriate maintain its current approach and consider incentives to innovate and risks faced by investors in respect of services that do not utilise UCLL and UBA inputs, then it must logically account for the impact of its determinations on all categories of innovation and investment in telecommunications services by all operators that are new, involve significant capital investment and deliver capabilities not available from established services.
- C7.2 As it stands, the Commission gives no consideration to whether its determinations affect incentives to innovate and risks faced by investors more broadly, including those applicable to

²⁵ WIK Cross Submission, section 2.1.

²⁶ WIK Cross Submission, section 2.1.

²⁷ WIK Cross Submission, section 3.5.

investments in new mobile and fixed wireless telecommunications services delivered by investment in 4G services and capability.

- C7.3 The different treatment of Chorus investment in fibre (which the Commission gives significant consideration to) and investments that fulfil the same statutory criteria made by other operators is stark. This different treatment finds no justification in the statutory language and we submit that the Commission must, as a matter of logic and substantive fairness, give equivalent consideration to substantial investments made by all other operators in services that meet the criteria in s18(2A) when determining UCLL and UBA prices.

Recommendation 2	Make the adjustments recommended in the NWS Report (20 February 2015) at [10.1]
Recommendation 3	Do not make any additional uplift in circumstances where its modelling choices already operate in favour of Chorus
Recommendation 4	Reject predictability as not appropriate as a defining goal of the FPP price review processes, given the nature of TSLRIC exercise.
Recommendation 5	Reject Chorus' fibre investment as a decisive factor in FPP price review processes. In particular, the Commission must not adopt as an objective ensuring that copper prices will always exceed UFB prices.
Recommendation 6	If considering Chorus' fibre investment pursuant to section 18(2A), give proper and equivalent consideration to all other categories of investment that meet the criteria in this provision.

D General concerns – 'Pricing policy aspects of UCLL and UBA pricing'

D1 Overview

- D1.1 We agree with Chorus that '*setting an appropriate price now opens up the potential for better broadband and more competitive and innovative retail offerings for all New Zealanders*'.²⁸
- D1.2 However in contrast to Chorus' arguments, our view is that the Commission risks setting wholesale access charges too high, rather than too low. Correcting the TSLRIC modelling will be in the long-term interest of end-users and in the interest of growth and dynamic efficiency of the New Zealand economy. As WIK highlight, it is the use rather than availability of broadband services that fuels productivity gains.²⁹ The pricing system should incentivise penetration and use of broadband via efficient pricing.
- D1.3 As Spark's submission dated 20 February 2015 highlights, the Draft UCLL Determination sets an access price that is 80% higher than the median price of the set of countries assessed by the

²⁸ Chorus February Submission at [6].

²⁹ WIK Cross Submission, section 2.2.

Commission for its IPP benchmarking exercise. Moreover the proposed access charges are 60% higher than the next most expensive country.

- D1.4 Chorus have confidently stated that: '*all experts agree that the risks of setting an inefficiently low price far outweigh the risks of erring in the opposite direction*'.³⁰ However, our own experts in matters of wholesale access pricing TSLRIC calculations disagree with this statement and instead warn that there is '*significant risk to the New Zealand economy of losing dynamic efficiency if UCLL and UBA prices are set too high*'.³¹

Recommendation 7 Undertake a proper consideration of the risks to the NZ economy of losing dynamic efficiency if UCLL and UBA prices are set too high.

D2 Impacts on market development

Inter-platform competition

- D2.1 Structural separation in New Zealand has fostered competition at the retail level. As demonstrated in section B above, competition at the retail level is fierce, and changes to wholesale access prices are not simply absorbed by RSPs, instead these are passed through to consumers.
- D2.2 An artificial uplift to TSLRIC prices will impact inter-platform competition, so the competitive tension between broadband service offerings via copper cable and broadband services offered via fibre, HFC cable and mobile. As WIK highlight, this would hurt both Chorus and RSPs offering copper-based broadband.³²
- D2.3 The Commission has committed to the principle of competitive neutrality. However Chorus argues for rebalancing between UCLL and UBA prices for public policy reasons, including on the basis that the Commission should support the promotion of fibre-based broadband. In contrast, a proper application of TSLRIC should include no consideration of these policy objectives. And indeed to do so would be beyond the Commission's remit.
- D2.4 We agree with WIK's statement that:³³

Competitive neutrality[...] is best served by wholesale access prices which reflect the TSLRIC of the respective services. If the TSLRIC prices are derived from a uniform modelling structure which is applied in a coherent and consistent way, then the resulting pricing structure of the UCLL and the UBA services are in an efficient balance to each other.

- D2.5 WIK raise an important criticism of Hausman's analysis:³⁴

Reading Hausman's report one might get the impression that the major task of the Commission in determining TSLRIC prices for UCLL and UBA is to increase incentives for investments in "improved quality (speed) internet", "new services or higher quality services" or even in other infrastructures than

³⁰ Chorus February Submission at [5].

³¹ WIK Cross Submission, section 2.2.

³² WIK Cross Submission, section 2.3.

³³ WIK-Consult, Submission in response to the Commerce Commission's "Consultation paper outlining our proposed view on regulatory framework and modelling approach for UBA and UCLL services (9 July 2014)", 5 August 2014.

³⁴ WIK Cross Submission, section 2.5.

the legacy copper infrastructures. These considerations ignore the main task of the Commission's price determination, which is to make sure that wholesale prices provide efficient incentives to use the existing infrastructure in the long term interest of users for some well-defined services. This goal is ignored, or at least totally underestimated by Hausman.

Broadband penetration

- D2.6 An increase in wholesale copper access prices, passed through to consumers, will negatively impact broadband penetration.
- D2.7 Broadband services offered over the copper network are generally at lower speeds (and prices) than broadband over fibre. Thus broadband over copper can be expected to be 'entry level' for price sensitive customers signing up to their first broadband contract. 2013 Census data shows that broadband penetration is correlated with household income. Population groupings with lower penetration rates can be expected to have higher price elasticities than early adopters, and therefore access prices set above the true TSLRIC level will have a disproportionately negative impact on New Zealand's lower income households.

Availability of UFB as a substitute to Copper is limited

- D2.8 Chorus' argument that UCLL and UBA prices should be rebalanced specifically to support the promotion of fibre-based broadband ignores the reality that this trade-off is not available for the majority of New Zealanders. Around 32% of all New Zealand premises can access UFB as at December 2014.³⁵ While UFB will ultimately extend to 80% of premises by 2019, the reality remains that for 68% of New Zealand premises today there is no option to migrate to UFB fibre. Indeed, 20% of New Zealand premises will never be able to access UFB.

UCLL and UBA prices compared to initial UFB prices

- D2.9 Chorus argues for an uplift to TSLRIC prices to incentivise the transition to fibre networks. WIK argue that '[b]y applying a general ORC asset valuation approach and by setting the price of using the legacy infrastructure at the level of the cost of the fibre access network, the Commission has done everything to maximise the incentives to migrate to fibre. This holds in particular when the performance of the fibre networks is much higher than the performance of the legacy infrastructure.'³⁶
- D2.10 We agree with the Commission where it says that: "[w]e see a strong distinction to be made here with any consideration that a specific level of relative prices should be established between the combined price of UCLL and UBA and the UFB prices, which we reject as inconsistent with section 18 and the promotion of competition."³⁷
- D2.11 Chorus argues that the Commission's calculations fail the sense check of whether nationwide P2P fibre network costs are lower than the entry level UFB fibre price for services in urban areas.³⁸ WIK explain why this argument is wrong:³⁹

³⁵ MBIE, Broadband Deployment Update, 14 December 2014.

³⁶ WIK Cross Submission, section 2.8.

³⁷ Draft UCLL Determination at footnote 214.

³⁸ Chorus February Submission at [11].

³⁹ WIK Cross Submission, section 2.8

- (a) the TERA model is not a nationwide fibre network but instead features FWA at the network edges;
- (b) the UFB price is negotiated between LFC operators and Government and is not subject to a TSLRIC calculation exercise, and so P2P fibre network costs are not comparable with UFB costs; and
- (c) as explained by WIK: *[a]dditionally, as the Commission itself stated, that it “would not support any adjustment of the price from our modelled central estimate of the TSLRIC price on the basis of the section 18 purpose statement” in order to prevent ‘not cost-orientated’ dumping strategies by Chorus.*⁴⁰

Recommendation 8 Retain the principle of competitive neutrality and do not rebalance UCLL and UBA prices for external public policy reasons.

D3 Welfare impacts of an uplift

D3.1 In our view the currently proposed wholesale access charges are already above true TSLRICs and so further deviations, to serve public policy objectives beyond the remit of this pricing process, would be inappropriate.

D3.2 The Hausman February Submission ignores that the wholesale prices arrived at by the Commission, and the resultant downstream retail prices, will have a major impact on the welfare of residential and business users. As WIK warns:⁴¹

Welfare gains from the introduction of new and improved telecommunications services can be overcompensated by welfare losses of inflated high prices for legacy services if the policy approach is to incentivize and direct demand to advanced telecommunications services by distorting the underlying wholesale prices.

D3.3 Furthermore, notwithstanding our view that to tilt a TSLRIC price for policy objectives would be inappropriate, WIK notes that:⁴²

There are a many arguments submitted on the potential welfare gains if customers move to more superfast broadband. The major arguments of Hausman in favour of an “uplift” on TSLRIC are based on such arguments. We do not question the potential of such welfare gains in principle. We argue however in favour of a thorough quantitative analysis of the costs and benefits of superfast broadband before a decision is made for the pricing system to be distorted to capture such supposed externalities. Such a comprehensive cost benefit analysis has been conducted just recently in Australia. The results of the Vertigan report are important and to some extent surprising....[and] show that the net economic benefits can be higher if the existing copper access network is still used to provide superfast broadband to a certain degree compared to the deployment and use of a nationwide fibre network.

Given these unexpected results for Australia we can only repeat the warning which we already expressed in our August Submission. Biasing the UBA and the UCLL prices upwardly to attempt to

⁴⁰ Draft UCLL Determination at [442] – [445].

⁴¹ WIK Cross Submission, section 2.5.

⁴² WIK Cross Submission, section 2.5. See also *Independent cost-benefit analysis of broadband and review of regulation, Volume II – The costs and benefits of high-speed broadband* (the Vertigan report), August 2014, p. 84f.

realise expected positive externalities of the UFB requires, as a prerequisite, empirical proof that the welfare losses due to artificially "uplifting" prices will be outweighed by spill-over externalities. The abstract proof which Hausman provides is in no way empirical proof of this point, especially in the New Zealand context.

- D3.3 We have carried out a very simple exercise to assess the gains sought by Chorus as implied by its support of the results of Analysys Mason's access pricing model:
- (a) UBA connection data and the number of unbundled lines for June and December 2014 are read from Chorus' own investor presentation,⁴³ and 2014 – 2018 forecasts for DSL connections obtained from IDC's New Zealand Telecommunications Forecast 2013-2018.
 - (b) The UCLL access charge sought by Chorus (\$74) is \$50.48 higher than the current wholesale rate (\$23.52). Chorus' proposed UBA connection access charge (\$91) is \$56.56 above the current rate (\$34.44) (applying national average rates).
 - (c) Applying the UCLL differential across all UCLL connections and the UBA differential across all UBA connections shows us the impact:
 - Chorus' proposals result in a hypothetical transfer to Chorus - in 2014 alone - of \$792 million.
- D3.4 This is not an insignificant cost, to be borne by RSPs and given the competitive nature of the relevant market, by New Zealand households and businesses.
- D3.5 We replicated the above assessment for the five year period 2014 to 2018 using IDC's connection projections for 2015-2018. Simplifying assumptions (constant UCLL connections and UBA declining in line with DSL connections) were made, and so these results are meant only to be indicative. Nonetheless the results are impressive: a transfer to Chorus of over \$3 billion over the 5 year period.⁴⁴
- D3.6 Of course these results will vary based on assumptions on connection projections for UCLL and UBA and with the discount rate applied to future revenue streams. However such variations are minor in contrast to the very substantial transfers that Chorus is proposing.
- D3.7 We note that Spark's February Submission included an assessment of the impact of the Commission's draft determination compared to the conservative estimate of true TSLRIC resulting from WIK's sensitivity analysis.⁴⁵ Thus, that assessment focused on a different differential (*Commission's draft determination vs. WIK's estimate*) than the calculation we are presenting here (*Chorus's proposal vs. current access prices*). The difference in inputs to Spark and Vodafone's calculations are minor, and do not affect the general message: transfers and welfare impacts will be substantial if the Commission adopts Chorus' proposals, or diverges from the true TSLRIC.

⁴³ Chorus, 23 February 2015, Half Year Result FY15 for six months ending 31 December 2014, Slide 7.

⁴⁴ Applying an NPV of 6.47%, equal to the Commission's WACC.

⁴⁵ Spark February Submission, Executive Summary.

D3.8 We maintain the view that uplift to the Commission's TSLRIC prices is neither necessary nor appropriate, and warn the Commission of the massive transfers that will flow from NZ households and businesses directly to Chorus' shareholders if Chorus' recommendations are accepted.

D4 Asymmetric risk

D4.1 Chorus argues the Commission should uplift TSLRIC prices to account for asymmetric risk. We consider the Commission's Draft Determination represents a series of conservative assumptions, which WIK highlights is in itself an accepted approach to dealing with asymmetric risk,⁴⁶ and no case for uplift exists.

D4.2 As NWS highlights, these conservative assumptions include:

- (a) the use of P2P technology rather than GPON;
- (b) the use of the RBI to determine the FWA boundary;
- (c) the approach to fibre deployment within the RBI areas;
- (d) inefficient trenching costs;
- (e) the uneconomic extent of the HEO's fibre footprint;
- (f) potential underestimation of the RBI subsidy;
- (g) the use of Chorus' accounting lives.⁴⁷

D4.3 To further protect against asymmetric risk by making additional adjustments would be double counting, a risk which is apparently denied by Chorus and its experts. NWS observes that:⁴⁸

Professor Hausman and CEG both ignore the concerns of other regulators that TSLRIC outcomes may lead to cost over-recovery... neither Professor Hausman nor CEG have presented a compelling case that the Commission has under-estimated the TSLRIC price. Our own review indicated that on balance it was far more likely that the Commission's estimate approaches an upper bound. In any event, even if the Commission has under-estimated the TSLRIC price this does not constitute a reason to apply an uplift.

D4.4 It follows that, as discussed below in section K, we do not agree that the WACC requires adjustment for asymmetric risk. Capital markets are well aware of, and so already factor in, such risks in New Zealand. The rationale for any uplift must be proven to be justified.

D4.5 In addition, by allowing relatively short lifetimes for many of Chorus' assets, the Commission has decided for an *ex ante* allowance for assets stranded due to technological change. WIK demonstrate that L1 Capital's concerns on this matter are unfounded: Chorus' asset lifetimes are prudent and the example L1 give of stranded trenches is wrong as trench re-use shows rapid asset stranding is unlikely.

⁴⁶ WIK Cross Submission, section 2.9.

⁴⁷ NWS Cross Submission, section 6.1.

⁴⁸ NWS Cross Submission, section 6.1.

D4.6 WIK make an important point:⁴⁹

Instead, the opposite holds in New Zealand: major parts of the infrastructure which Chorus uses to produce the UCLL service are fully depreciated but still in use. These assets are generating returns based on their ORC value without causing capital costs at all. That is the opposite of a stranded asset.

D4.7 We agree with WIK's conclusion that: '[m]ost of the arguments raised by Chorus and its advisors on asymmetries caused by stranded investment are irrelevant.'⁵⁰

Recommendation 9 Do not uplift TSLRIC prices to account for asymmetric risk.

E Modelling the network – general concerns

E1 Consideration of demand

Whose demand?

E1.1 Chorus' submissions demonstrate that it is again confusing its own position with that of the HEO. The HEO will meet the demand for fixed line access in New Zealand. This is not identical to Chorus' current number of connections.

E1.2 Chorus are claiming that the HEO demand should exclude those areas in which LFCs are deploying fibre, as to include these means the HEO would realise greater economies of scale than Chorus can. We agree with NWS' emphasising that '*this determination is for the UCLL and UBA services, which Chorus offers nationwide – including in the LFC areas – over its copper network*'.⁵¹ Excluding LFC areas from the HEO's network footprint would mean economies of scale Chorus does realise in its copper network would be ignored, thus inflating the TSLRIC calculation.

Inconsistencies in demand assumptions

E1.3 We retain the concerns described in our February Submission regarding the disjoint in Chorus' cost models between asset count and service demand levels. The overall number of assets in certain asset classes within the UCLL model (including feeder manholes, cables route from trench to active cabinets, and feeder fibre cables) more than quadruples over the regulatory period. We do not agree that asset deployment can be decoupled from service level demand, and do not agree that the projected asset number increases can be justified for an HEO deploying MEA.

E1.4 In contrast, the Chorus UBA model does link service level demand with asset counts, and allows for assets counts to change as service levels' demand changes. Thus both demand level assumptions and the assumed relationship between demand and asset counts are inconsistent across the UCLL and UBA models.

Demand will increase over time

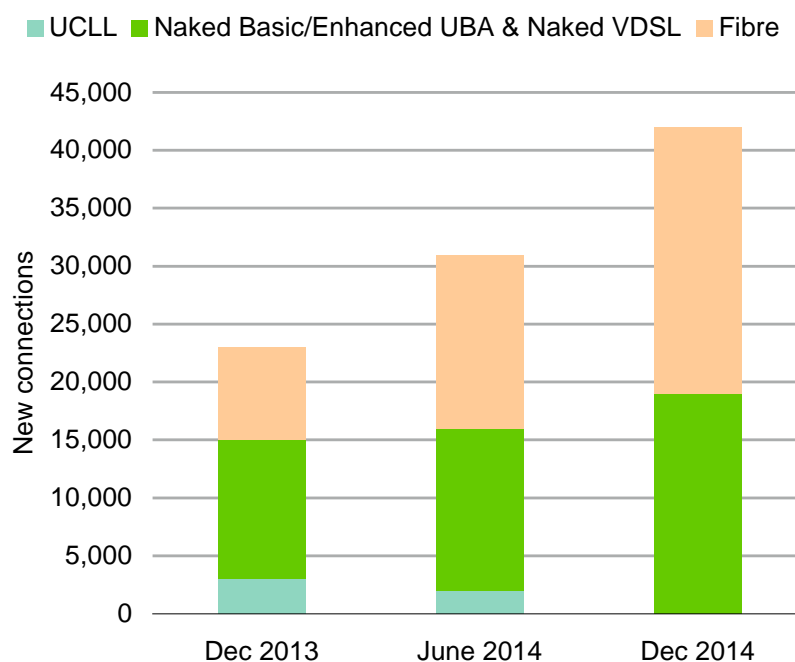
⁴⁹ WIK Cross Submission, section 2.9.

⁵⁰ WIK Cross Submission, section 2.9.

⁵¹ NWS Cross Submission, section 7.1.

- E1.5 The Vodafone February Submission raised concerns over the Commission’s constant demand assumption. As noted above, the Chorus February Submission contains inconsistencies regarding whether demand is modelled as constant or growing.
- E1.6 NWS provides a useful demonstration⁵² of the appropriateness of an increasing demand assumption: namely that Chorus’ own presentations to investors show growth in connections, and indeed an *increasing rate of growth* in connections, as replicated in Figure 3 below:

Figure 3: New connections, December 2013 to December 2014



Source: Chorus investor presentations

- E1.7 Accordingly, we reiterate our recommendation that the Commission’s constant demand assumptions are inappropriate.

Recommendation 10 Continue to model the HEO’s, and not Chorus’, demand, and so do not exclude ‘LFC areas’ that will be served by the HEO.

Recommendation 11 Assume an increasing demand trajectory, consistent with current connection data and industry projections.

E2 Asset prices

Inflated prices

- E2.1 As discussed in our February Submission, Chorus’ model includes inflated input parameters. Obvious concerns on asset prices include:

⁵² NWS Cross Submission, section 7.1.

- (a) list prices of vendors are relevant to incremental network extensions and not the deployment of a new MEA network. WIK state that vendor list prices over-estimates equipment and other input prices by 20% to 40%.
- (b) chassis costs for DSLAM and FDS are inflated by up to 5.7%.⁵³

E2.2 Moreover national average trench prices are significantly above those of the TERA model, which are too high already. For further detail on our concerns on trenching costs and price comparison see section I of this Cross Submission.

Long term price trends

E2.3 We share NWS' concerns that CEG has not provided sufficient compelling evidence for the Commission to replace its own price trend estimates with those of CEG.

E2.4 CEG's long term price trends have too strong an emphasis on historical data: long term historical price trends may not be appropriate when considering future price trends of short-lived assets.

E2.5 CEG's suggestion that the Commission use a regression model where the log of price is assumed to have a linear trend over time would not ensure the endpoint projection matches the endpoint of the actual dataset. We note the concerns in NWS Cross Submission that for a more volatile data series such as copper prices, the model may be a poor predictor of forward looking prices.

E2.6 In its analysis of 'long term price trends', CEG has utilised data from differing sources and definitions, thus we have reservations whether the underlying data is of sufficient quality to support CEG's price trend analyses:

- (a) CEG's data series on wages and labour spans the discontinuity in roles included within occupational classifications that resulted from the replacement of the New Zealand Standard Classification of Occupations by the Australian and New Zealand Standard Classification of Occupations. We share NWS' concerns⁵⁴ given Statistics New Zealand states: '*[a]s there is a high level of discontinuity between the old and new occupation and industry breakdowns, the new series have not been linked to the old series*'⁵⁵ and moreover that overall, three separate data series have been used to create CEG's data series.
- (b) The data series for the carbon steel price index is an amalgamation of two sets of data with no data series definition.
- (c) The copper prices is also a combination of various data sources including interpolations for missing data, which itself will be influenced by CEG's choice of later data points.

⁵³ WIK Cross Submission, section 7.2.6.

⁵⁴ NWS Cross Submission, section 4.1

⁵⁵ Statistics New Zealand (2010), *Labour cost index (salary and wage rates): June 2010 quarter*, 3 August 2010.

E2.7 We share NWS' concern that these approaches will have introduced '*additional sources of error into the analysis, due to the discontinuities, and potentially differing trends, of the various component data series.*'⁵⁶ NWS's conclusion is significant:⁵⁷

We therefore do not believe that CEG has provided compelling evidence for the Commission to replace the forecasts obtained from NZIER with CEG's own projections from constructed data series.

Fibre optic cabling

E2.8 CEG raise concerns on the Commission's use of the 'insulated wire and cable; optical fibres cables' component of the capital goods price index (**CGPI**) from Statistics New Zealand for a price trend of fibre optic cabling.

E2.9 Data from the JCMA (and potentially the US PPI) on fibre optic trends may be useful for the Commission to consider but as this data is historical, we support NWS' recommendation that the Commission also consider benchmark data used by the Danish, Swedish and Norwegian regulators.

Inflation rate

E2.10 CEG have used the RBNZ's midpoint target inflation rate however NWS suggest using more recent data – arriving also at a slightly reduced inflation rate of 2%.

Recommendation 12 Accept that CEG has not provided sufficient compelling evidence for the Commission to replace NZIER's price trend estimates with those provided by CEG.

Recommendation 13 Accept that CEG's long-term estimates place are overly reliant on historical data.

Recommendation 14 Accept that price series have been constructed by linking data with differing sources, definitions and time periods, which leads to series of questionable quality.

Recommendation 15 Consider (absent more source of forward looking data) the additional benchmark data used in the models of the Danish, Norwegian and Swedish regulators.

E3 Non-network cost

E3.1 Analysys Mason submits that non-network common costs should be allocated across UCLL and UBA using the same methodology as used by TERA for allocations across regulated and non-regulated services.⁵⁸ However TERA did not have sufficient data to apply the optimal rule - EPMU - consistently for the allocation of common costs across regulated and non-regulated services.

E3.2 We do not agree that if a second-best option is used in one area of cost allocation, that same second best approach must be used for all other cost allocations. We share WIK's view that the

⁵⁶ NWS Cross Submission, section 4.1

⁵⁷ NWS Cross Submission, section 4.1

⁵⁸ Analysys Mason February Submission, section 5.4.

closest proxy for a general application of the EPMU rule - and the appropriate method for TERA to follow for common cost allocation across UCLL and UBA - is on the basis of the attributable costs of these services.⁵⁹

Recommendation 16 Base common cost allocation across UCLL and UBA on the attributable costs of these services.

E4 Opex and common costs

E4.1 TERA's LFI adjustment is designed to adjust the OPEX read from Chorus' accounts (representing the OPEX of a legacy copper access network) to the OPEX for a modern copper access network – the latter being relevant to an HEO deploying MEA copper. Analysys Mason and Chorus both appear to misunderstand the straightforward nature of the LFI adjustment in the TERA model. We disagree with Analysys Mason's proposal to exempt individual OPEX items from the LFI adjustment (based on the reasoning that they appear less correlated to the fault rate than other OPEX items) – this proposal is methodologically incorrect. L1 Capital demonstrates the same misunderstanding.

E4.2 We note WIK's finding that the BT OpenReach figures, provided by L1 Capital as a benchmark, 'nicely support' the Commission's adjustment:⁶⁰

Chorus seems to be as efficient (or inefficient) as BT OpenReach regarding operating expenditure per line. This is not a surprise but only logical because, similarly to Chorus, the OPEX of BT OpenReach represents the OPEX of managing an old copper access network.

E4.3 Both Chorus and Analysys Mason warn of double-counting if the 50% OPEX fibre adjustment is applied after the LFI adjustment. We agree with WIK that this is a further misunderstanding on the adjustments:⁶¹

Both adjustments are proxy approaches. The LFI adjustment adjusts for the OPEX of an "old" copper network that basic data is derived from, while the fibre adjustment adjusts from the OPEX of a new copper to the OPEX of a new fibre network. From this high level perspective, TERA's adjustment approach is methodologically correct. Therefore, Analysys Mason's proposal to apply the fibre adjustment in the fibre network scenario is incorrect.

E4.4 We repeat the concerns raised in the Vodafone February Submission that neither the Commission, nor TERA, has not checked the efficiency (or otherwise) of Chorus' operations. As described by WIK:⁶²

TERA did not, for instance, check Chorus' process efficiency. Other efficiency aspects such as process design and related costs have not been regarded. OPEX related processes do not consider solely fault repair but also include many other maintenance activities. We could not assess this exercise in TERA's model. This is probably due to the model's architecture: in that most OPEX accounts are considered in a top-down approach without an assessment of whether the cost-driving processes are in fact efficient processes. This also holds for LFI-related OPEX: the reduction of OPEX due to the LFI adjustment simply reflects a volume effect, resulting in less fault repair activities corresponding to

⁵⁹ WIK February Submission, section 5.12.2

⁶⁰ WIK Cross Submission, section 3.3.

⁶¹ WIK Cross Submission, section 3.3.

⁶² WIK Cross Submission, section 3.3.

lower LFI. We cannot observe that the fault repair activities themselves have been analysed by TERA or the Commission for efficiency.

E4.5 WIK's conclusion on this point should also be highlighted: *'The consequence of the absence of efficiency assessments is that the costs for the basis to calculate FTTH related costs are already overestimated.'*⁶³

E4.6 Analysys Mason provides examples of OPEX savings on fibre networks. As WIK observes, these examples are either outdated or as opaque as the examples provided by TERA. WIK recommend two approaches that may verify whether the level of OPEX that the Commission derives in its model is appropriate or not:⁶⁴

The first best approach is to apply relevant mark-ups for OPEX on the CAPEX of the fibre network. From our own modelling of fibre networks we can confirm that the relative levels of OPEX (compared to CAPEX) in the TERA model is appropriate.

A second approach would be to benchmark the share of OPEX in the Commission's model with the share of OPEX in other access cost models based on the TSLRIC approach.

E4.7 WIK have found that the share of fibre OPEX in relation to total costs in the TERA model is significantly higher than the same fibre OPEX share in cost models for Spain and Denmark. Moreover, WIK report that the Australian NBN Co has estimated OPEX savings for its superfast broadband network at 35%: *"[t]hese savings represent, according to the NBN Co, a conservative estimate as real experiences and estimations of the carriers Verizon and BT calculated OPEX savings of 70% to 80%"* and thus: *"[t]aking this into account, the 50% OPEX fibre adjustment by TERA represent a reasonable approach"*⁶⁵

E4.8 We continue to submit that the Commission should apply a conceptually more robust approach for OPEX adjustments, such as a mark-up based on CAPEX.

E4.9 We note again that Chorus' network cost information is historical information obtained primarily from Chorus' own General Ledger with no efficiency adjustments applied, or is information obtained from unidentified sources with no mention of efficiency adjustments.⁶⁶ It is not appropriate to apply Chorus' historical operating costs to an HEO.

E4.10 Further, we note again WIK's identification of double counting in Analysys Mason's OPEX calculation:⁶⁷

We do not see any reflection in the model user guide provided by Analysys Mason of whether the OPEX which are related to transaction services and not to operating the network are deducted from the relevant cost base. Therefore, there is reason to assume that a lot of irrelevant cost which are not caused by the operation of the UBA and UCLL services are included in the OPEX cost base. This would imply a double-recovery of costs.

⁶³ WIK Cross Submission, section 3.3.

⁶⁴ WIK Cross Submission, section 3.3.

⁶⁵ WIK Cross Submission, section 3.3.

⁶⁶ Chorus UCLL TSLRIC user guide, page 9 and Chorus UBA TSLRIC user guide, page 8.

⁶⁷ WIK February Submission, section 7.1.3.

Recommendation 17	Do not exempt individual OPEX items from the LFI adjustment.
Recommendation 18	Assess (independently or with TERA) the efficiency or otherwise of Chorus' operations.
Recommendation 19	Apply a conceptually robust approach for OPEX adjustments, such as a mark-up based on CAPEX.

E5 Exclusion of certain capital costs

E5.1 Chorus is opposing the consideration of any type of capital contribution by third parties.⁶⁸ We note WIK's critique of this stance:⁶⁹

Chorus argues that costs are under-estimated if certain capital costs are excluded from the model and that those costs are required to maintain the existing network footprint. This is a unique approach which essentially argues that double-recovery of costs is required to maintain the network footprint.

E5.2 The Commission has a clear obligation to avoid double-recovery of costs. Chorus receives capital contributions for non-standard customer connections, and thus the HEO should be assumed to act in a similar manner – to not cover the cost of uneconomic connections - and so should be assumed to receive the same contributions as Chorus actually does.

E5.3 Chorus also argues that it has an obligation to provide uneconomic services on demand is irrelevant when capital contributions are received to cover such obligations. An HEO can be considered to face the same obligations – and contributions.

E5.4 Chorus also argues that the Commission's model should not exclude the capital costs for significant volumes of DSLAMs due to funding for these assets from the RBI.⁷⁰ We agree with WIK that this argument is irrelevant:⁷¹

[...]the actual implicit capital contribution to UBA in the model amounts to \$ 15.8 million in 2015 and to \$ 13.7 million in 2019. This contrasts with the total subsidy to Chorus under its RBI contract of \$ 236 million.⁷² Chorus might be right that the RBI capital contributions are not paid for DSLAMs (only). We have shown in our February Submission that the RBI subsidies are actually paid for more network elements than just DSLAMs.⁷³

E5.5 Analysys Mason suggests that the Commission treat capital contributions as an asset with a negative capital cost and individual lifetimes. Again we agree with WIK:⁷⁴

TSO payments are one reason that capital contributions flow permanently. [...] there is also no restriction on end-user contributions. Therefore, it would be inconsistent for the Commission to

⁶⁸ Chorus February Submission at [97].

⁶⁹ WIK Cross Submission, section 3.1

⁷⁰ See Chorus, February Submission, para. 50.

⁷¹ WIK Cross Submission, section 3.1

⁷² See NWS February Submission, section 3.1.

⁷³ See WIK February Submission, section 2.7.

⁷⁴ WIK Cross Submission, section 3.1

depart from its current approach of modelling capital contributions in the model. This holds regardless of our view that the capital contributions considered in the model are incomplete.

E5.6 Thus we disagree with Chorus' criticism of the Commission's decision to exclude such capital contributions: to follow Chorus' advice would result in significant double counting.

Recommendation 20 Avoid double cost recovery by considering all capital contributions, whether related to Government-funded infrastructure deployment, end-user contributions or received under the TSO.

E6 General critique of Analysys Mason's model

E6.1 Our February submission raised serious concerns on the Chorus network cost models. Having read Chorus' and its experts' submissions, we retain these concerns. In summary:

- (a) The cost models have been built to reflect Chorus' actual network. The models do not reflect an economically efficient operator utilising modern equivalent assets (**MEA**). As such, the models do not adhere to the Commission's TSLRIC modelling criteria and principles.
- (b) Furthermore, Chorus network cost models assume both a copper access network and a hybrid copper/fibre access network reflecting Chorus' transition from a copper to a fibre network, which fundamentally diverges from the Commission's MEA concept.
- (c) The Chorus network cost models are based on the historic, inefficient network design of Chorus' actual network which has been built up over many years of incremental network decisions and investments. The UCLL model is based on actual asset counts "*as Chorus' actual investment decisions are taken as a proxy for an efficient operator*" and the UBA model "*combines a bottom-up model for electronics with actual asset counts for civil works[...] and actual number of nodes...*"⁷⁵ Historic decisions cover:
 - *Technology choice*: The Commission has specified the MEA is P2P fibre and FWA, whereas the Chorus network models feature only limited fibre in the feeder network models and no fibre in the distribution network. No FWA technology is considered.
 - *Network optimisation*: The Commission has specified a modified scorched node approach however the Chorus network models attempt no node optimisation and simply reflect the existing network. Similarly, no optimisation is undertaken for path, duct or cable lengths, nor for network costs (where for example trench costs optimisation differs from trench length optimisation).

E6.2 Each of these concerns are addressed in this Cross Submission's sections below, but in summary these deficiencies severely undermine the credibility of the Analysys Mason model for predicting TSLRIC costs for the regulated services, in a manner consistent with the Commission's obligations under the Act.

⁷⁵ Chorus UCLL TSLRIC user guide, page 4 and Chorus UBA TSLRIC user guide, page 1.

F UCLL - MEA Network design

F1 Core functionality aspects of UCLL and SLU

F1.1 The arguments on the core functionality of the UCLL (SLU) service have been well canvassed in this process. We broadly agree with the pragmatic approach adopted by the Commission, which reflects the type of network we expect an HEO would deploy.

F1.2 As we have previously submitted, we do not accept Chorus' submission that FWA should be excluded from the MEA on the basis of core functionality. Both in our experience, and reflecting the advice of our consultants (who have surveyed a number of international comparators), it is plainly the most appropriate solution for rural and remote customers, and Chorus' objections do not hold:⁷⁶

- (a) to the extent there are bandwidth constraints, these can be accommodated with the use of modern LTE technology;
- (b) utilisation assumptions could helpfully be compared to existing rural and remote New Zealand utilisation (which is likely to be lower than a nation-wide average). Further, we note that providing high quality copper services to remote users is challenging due to line-length.
- (c) we note the Commission's implicit acceptance that unbundling is unlikely to take place in rural and remote areas (where FWA services are most efficient).⁷⁷ We agree with this principle.

F1.3 With respect to core functionality more generally, and as set out in earlier submissions, we do not agree with Chorus that:

- (a) GPON is excluded because it cannot be unbundled. GPON underpins the New Zealand FTTH network, for which Chorus and the LFCs will be required to satisfy to the Commission this year that it will be possible to unbundle from 2020. In addition, as WIK have identified, technologies such as VULA to provide local loop unbundling equivalent services over GPON.
- (b) "Fixes" for fibre are required. These costs are increasingly less relevant as, for example, end-users move to replace legacy analogue services (i.e., fax with email, or analogue EFTPOS with machine-to-machine EFTPOS over cellular networks) and in any case are borne by end-users and do not form part of the core functionality of the service.

F1.4 In summary, we agree with WIK's conclusion that no HEO would deploy a new copper network. Instead, a FTTH and FWA meets the core functionality of the relevant services and is the most efficient method for their delivery. It is plainly the MEA for UCLL and UBA.

⁷⁶ WIK Cross Submission at section 4.1.

⁷⁷ Draft UCLL Determination at [285].

F2 ETP costs

- F2.1 Chorus submits that the costs of the external termination point (**ETP**) must be recovered as part of the UCLL service.⁷⁸ We submit that this would lead to a direct double-recovery for Chorus. As observed by WIK, the cost of the ETP is recovered separately through the Copper Service Lead-In Service (at a charge of \$195).⁷⁹ As such, we support the Commission's draft decision to model to (but not including) the ETP.⁸⁰
- F2.2 Similarly, we reject Chorus' assertion that any in-home wiring costs should be included in the UCLL service cost. This cost is plainly met by end-users. There is simply no credible basis for including these costs in the UCLL service cost.

F3 Lead-in considerations

- F3.1 Analysys Mason have recommended a number of changes to the cost calculation for lead-ins. WIK have reviewed these, and conclude that they should be rejected because they will result in an over-estimation of cost.⁸¹ We agree with these conclusions.

F4 Engineering and dimensioning rules

- F4.1 WIK do not accept Chorus' conclusions in respect of engineering and dimensioning rules.⁸² Specifically:
- (a) cable spare capacity, while requiring correction (as acknowledged in WIK's earlier analysis), should not be set at the levels sought by Analysys Mason. WIK have benchmarked spare capacity requirements (which differ between copper and fibre services) and provide justifiable figures for a reserve adjustment which are significantly lower than those recommend by Analysys Mason.
 - (b) while it is acknowledged that certain elements of network protection and resilience should be incorporate in a modern network design, the effects are likely to be minor on cost and (given the significant over-estimation arising, especially from trenching costs and the shortest path algorithm adopted by TERA) are of an order of magnitude which is of limited relevance given these larger challenges with the model.

F5 Network sharing

- F5.1 WIK confirm their view that the Commission's model does not fully account for potential cost-savings from sharing. It does not include sharing of underground trenches with other utilities, limiting itself to sharing of poles only.

⁷⁸ Chorus February Submission at [451].

⁷⁹ WIK Cross-submission, section 4.5.

⁸⁰ TERA Model Specification, section 4.2

⁸¹ WIK Cross Submission, section 4.6.

⁸² WIK Cross Submission, section 4.7.

F5.2 Further, as demonstrated in the Chorus submission, parallel installations using shared poles/ducts mean that there may be no need for trenching costs (only the costs of installing additional fibre cables).⁸⁵

F6 Fibre and copper cable costs

F6.1 WIK restates its view that utilising incumbent information for unit costs directly is not appropriate to identify the costs for an HEO. As such, Analysys Mason's assertion that the unit costs of certain cables should be rejected.

F6.2 Instead, the Commission should maintain a downward adjustment on price lists supplied by Chorus, to reflect the lower costs which an HEO (with nation-wide scale) would reasonably be expected to achieve.

Recommendation 21	Retain an FTTH and FWA MEA for UCLL because it meets the core functionality test and reflects the technology choice an HEO would be expected to make.
Recommendation 22	Ensure lead-ins are modelled in the most efficient manner possible.
Recommendation 23	Reject Chorus' assertion that engineering and dimensioning rules should be tuned upward to raise prices.
Recommendation 24	Adjust its assumptions to fully account for potential cost-savings from sharing, including through trench sharing and parallel installations.
Recommendation 25	Adjust cost cable cost assumptions from the incumbent downwards, because HEO scale would deliver further reduced supplier prices.

G UBA modelling aspects

G1 Backhaul links

G1.1 Chorus forecasts an increase in traffic per end-user over the next 5 years' as driving a need for replacement of backhaul links during the regulatory period. WIK reject this on the basis that:

- (a) any exhaustion of 1gbps backhaul links is estimated for the fifth year of the 5 year regulatory period. Given the estimation uncertainty and differing growth assumptions, we agree with WIK this should not be included in the model;
- (b) Chorus' assumption that exhaustion of backhaul capacity will stem from fully provisioned DSLAMs (at, or close to, 384 customers) is further rebutted by WIK's analysis that 85% of DSLAMs will serve 192 or fewer UBA customers.

G1.2 As WIK observe, the model could be complicated to address traffic growth year on year. However, WIK conclude that this is not required in this case.

⁸⁵ WIK Cross Submission, section 4.8.

G2 FDS interlinking dimensioning

G2.1 WIK have assessed Analysys Mason's conclusions in respect of FDS interlinking dimensioning and find that:

- (a) Analysys Mason's approach to network dimensioning should be rejected, in favour of utilisation average traffic over time (to reflect average switch dimensioning required for the period), because the Analysys Mason approach will result in unused capacity being built and only utilised in the final year of the regulatory period (which is inefficiency and inconsistent with ordinary network design);
- (b) A growth rate for the busy hour peak case of approximately 40% should be adopted, given uncertainty looking forward;
- (c) Larger switches are available and can be used in certain cases to reduce interlinking requirements and remove unnecessary costs;
- (d) Interswitch traffic can be efficiently managed (especially for smaller RSPs) at higher level network nodes instead of installing more complex any-to-any interswitch connections.

G3 SFP dimensioning

G3.1 WIK conclude that the additional costs for SFP dimensioning have been adequately accounted for, and so reject Analysys Mason's suggestion that these costs should be higher.

G3.2 However, in the event that it is not, WIK note that if TERA's model does, in fact, exclude SFP functionality then WIK's own analysis of over-estimation of costs (which does assume that the costs for a second SFP are already included in the input parameter for DSLAMs) carries even greater weight.

G4 Installation and indirect capital costs

G4.1 WIK conclude that Analysys Mason's conclusion that different indirect capital costs (such as installation costs) is underestimated or excluded is unsubstantiated, and therefore should be rejected. Instead, WIK conclude that the relevant direct costs have been considered by TERA.

G4.2 WIK also reject Analysys Mason's assertion that the cost for fibre reservation are missing, identifying their inclusion in TERA's analysis.

Recommendation 26	Reject Chorus' assertion that additional costs for the replacement of backhaul links during the regulatory period are required.
Recommendation 27	Reject Analysys Mason's approach to FDS interlinking dimensioning and adopt a lower growth rate (40%) for busy hour usage.
Recommendation 28	Additional costs for further SFP dimensioning, installation and indirect capital costs are not required.

H Re-use of aerial assets

H1 Overview

H1.1 The correct approach when considering an HEO's network optimisation is to consider the hypothetical reality in which other utility infrastructure exists, and so electricity distribution businesses (**EDBs**) have already constructed their own aerial distribution networks. To assume otherwise is to assume away the existence of an essential NZ utility: electricity. Thus the relevant considerations are the proportion of existing infrastructure suitable for sharing by the HEO and the costs the HEO would incur in a sharing arrangement.

H2 Sharing

H2.1 The Commission has assumed a 'joint' build scenario whereby current electricity distribution networks do not exist and instead an HEO would jointly build aerial assets together with an electricity lines company, with equal contributions from each utility. On this matter we agree with Chorus:⁸⁴

In our view, the HEO would inevitably end up sharing poles with electricity lines companies rather than undertaking a new joint build. In our view, modelling this "shared" scenario is more realistic than the Commission's joint build approach.

H2.2 The HEO would enter into commercial negotiations with existing infrastructure owners, where it makes sense to do so. Moreover, an HEO deploying a nationwide fibre network is most likely to be an electricity distribution company – as demonstrated by UFB contracts being won by Northpower and Ultra Fast Fibre. Similarly, the LFC company Enable has access to public infrastructure.

H2.3 Chorus' actual UFB deployment is unlikely to reflect the efficient practices we must assume for an HEO. For example, public policy objectives have directed the order of UFB build-outs (schools, businesses and hospitals first), rather than Chorus optimising where and when it deploys.

H2.4 Deploying aurally is cheaper and faster than undergrounding fibres. Thus given the HEO is - by definition - efficient, the HEO *must* be assumed to deploy aurally as much as is feasible.

⁸⁴ Chorus (2015), *Submission for Chorus in response to Draft Pricing Review Determinations for Chorus' UCLL and UBA Access Services (2 December 2014) and Process and Issues Update Paper for the UCLL and UBA Pricing Review Determinations (19 December 2014)*, 20 February 2015, paragraph 480.

- (a) The degree of sharing included in TERA's modelling must be informed by:
- Sharing planned by Vector in its UFB proposal: 45% of Auckland premises were to be connected using aerial fibre, so utilising 65% of Vector's 115000 electricity poles.
 - Northpower has deployed 60% of its UFB infrastructure using existing poles, and was the first LFC to complete its build. NWS relate statements made by Northpower: that *'aerial deployment was critical to its success with fast installation at minimum cost.'* Moreover: *'Key design considerations included leveraging from existing assets, and minimising the cost per customer passed. As such it considered all available options in terms of existing structures (including infrastructure owned by third parties) and compared the costs of access to these with the cost of building their own structure.'*⁸⁵
 - The proportion of the Vodafone-ESB network that will be deployed by aerial and ducted (re-using assets), as detailed in NWS' confidential February Submission.
- (b) The sharing cost faced by an HEO would reflect the marginal additional cost to an EDB of hosting the HEO's lightweight fibre cables along its own existing distribution network. This will be far lower than any joint-build estimations.

Recommendation 29	Do not assume away the existence of electricity distribution businesses, and their already-built aerial networks.
Recommendation 30	Accept that an HEO must by definition share existing infrastructure where it makes economic sense to do so, rather than undertaking a new joint build.
Recommendation 31	Accept that sharing cost faced by an HEO would reflect the marginal additional cost to an EDB of hosting the HEO's lightweight fibre cables along its own existing distribution network.

H3 Consenting

- H3.1 Chorus raises at length the challenges presented by differing consenting regimes across New Zealand's regions. We refer the Commission to the recent Jakobs SKM report on RMA and telecommunications infrastructure⁸⁶, which confirms that in general, above ground cables, new poles and overhead cables are permitted. Contrary to Chorus' submission, consents are not required in every local council area.
- H3.2 Moreover, Chorus' consenting concerns are minimised if the HEO is sharing already-consented infrastructure. The Government's policy of facilitating UFB high speed broadband deployment is relevant when considering the world of the HEO: the HEO will deploy in a world in which the proposed National Environmental Standards appear likely to be adopted.

⁸⁵ NWS Cross Submission, section 5.1.

⁸⁶ Jakobs SKM (2014), Environmental Effects of Implementing Ultra-Fast Broadband and Mobile Infrastructure, 6 May 2014.

Recommendation 32 Accept that an HEO will deploy in a world in which the proposed National Environmental Standards are adopted.

H4 Cost information

- H4.1 The Commission has based its costing on aerial poles that have been erected by Chorus, and Chorus responded by highlighting the unsuitability of its aerial network for sharing with other infrastructure.
- H4.2 We agree that poles for road crossings must be at least 5.5m tall. However most of any aerial network is alongside, rather than crossing roads and so for an HEO building its own infrastructure, not all poles would need to be 5.5m tall. We also agree that wooden poles may not be suitably strong to support both electricity and telecoms cabling. The Commission should not rely therefore on Chorus' aerial network costings.
- H4.3 Instead, the Commission should consider the aerial cost and deployment information from NorthPower and Vector. These companies will be able to inform the Commission on the relevant cost considerations: namely the marginal additional cost of adding telecommunications fibre cabling to existing infrastructure.
- H4.4 Chorus raises additional costs that it argues the HEO would incur for administration of pole sharing arrangements. We disagree that such additional charges are relevant in a situation where the HEO is already paying an access charge based on the marginal costs of adding the fibre cables – such costs should already be included in the HEO's access charge.
- H4.5 Moreover, we note NWS' argument that:⁸⁷

EDBs typically have asset replacement plans which allow for regular upgrading and replacement of poles as part of their normal business operations. Consequently it is not surprising that Vector would have readily been able to use its existing poles for UFB deployment with limited requirements for pole replacement. Similarly, we understand from Northpower that it has used 100% of its poles in its UFB deployment without the need to strengthen or replace any.

Recommendation 33 Rely on deployment information for aerial cabling for fibre networks already carried out by Northpower, and planned by Vector. Aerial costing information from EBDs is more relevant than cost information on Chorus's poles, which are not suitable to convey both electricity distribution and telecommunication fibre cables.

H5 Conclusion

- H5.1 The Commission must not assume away the existence of electricity distribution businesses, and their already-built aerial networks. The HEO must be considered to share existing infrastructure as far as is feasible. To this effect, the practices of Northpower and Vector are more relevant than Chorus' more limited aerial deployments. Given the HEO would not be jointly building this

⁸⁷ NWS Cross Submission, section 5.4.

infrastructure, a 50% cost share is a significant over-estimate. Instead, the HEO would face the marginal cost of adding its telecommunications fibre to the EDB's poles.

I Trenching costs

11.1 Our February Submission, alongside WIK's February Submission, demonstrated that the trenching costs within TERA's model are too high. We do not agree with Chorus' and Analysys Mason's submissions that the trenching costs should be even higher:

- (a) Chorus argues the Commission has omitted service company overheads. We disagree that this should be a separate line item: where a company carries out functions itself or contracts out to a third party is irrelevant to the costing model. Rather, the per meter trenching cost represents all necessary construction costs, so includes relevant overheads for management of the construction work. WIK highlight that the above, the Commission's approach, is the correct 'orthodox' approach.⁸⁸ Chorus' proposal to add extra overhead costs would result in double counting.
- (b) An urban trenching cost category is appropriate due to the additional difficulties faced when digging trenches in urban areas. We agree with the Commission that it is not possible to abstract from the challenges posed in urban areas including different surface materials, restrictions due to other existing infrastructure, more complex traffic management and more complex crossings of streets. Such challenges will be factored into the trenching costs estimates provided for urban areas.
- (c) We note WIK's concern that aurecon and Chorus' submissions are contradictory in terms of the relative difficulties of digging basalt and scoria.⁸⁹
- (d) Trenching costs are likely to increase with urban density, and so trenching costs for Auckland may not be relevant to other urban areas across New Zealand.

11.2 WIK have prepared a useful comparison of trenching costs: comparing Chorus' claim of an \$[REDACTED] [CNZCI] cost in Auckland's CBD with the average cost in the most expensive trenching class (urban areas with the highest population density and most expensive soil or surface class) of cost models for European and Mediterranean countries. Costs are adjusted for purchasing power parity.⁹⁰

11.3 It is remarkable that even the highest trenching rate - of a sample of already highest national trenching rates - is \$227/m, and so represents less than 30% of the cost claimed by Chorus. Notwithstanding that New Zealand is currently undertaking both repairs following the Christchurch earthquake and substantial deployments of fibre (and so upwards pressure on some relevant costs), we cannot believe that Auckland is really so extremely different to urban areas across these other countries.

11.4 Analysys Mason claims that as Beca's blended trench lengths are derived from regional suppliers and contain minimum trench lengths of 50m, the modelled trench costs should be higher. We

⁸⁸ WIK Cross Submission, section 4.2.

⁸⁹ WIK Cross Submission, section 4.2.

⁹⁰ WIK Cross Submission, section 4.2, Table 4-1.

repeat our recommendation that the Commission must take into account the HEO is deploying nationally, and so will have negotiating power in dealing with trenching contractors, who themselves will achieve economies of scale in laying trenches. We agree with WIK's view that an HEO would face lower costs than those estimated by Beca, and highlight their calculation that Beca's rates are overestimated by 25%.⁹¹

- Recommendation 34** The per meter trenching cost already includes all necessary management of trenching activity, or costs arising from challenges faced in urban areas. So to include a separate additional costs for these for management of the construction work would be double counting.
- Recommendation 35** The HEO is deploying nationally, and so will have negotiating power in dealing with trenching contractors, who themselves will achieve economies of scale in laying trenches.
- Recommendation 36** Chorus' proposed trenching rate of \$[] [CNZCI] for Auckland CBD must be disregarded. Beca's trenching rates are estimated to be inflated.

J Fixed Wireless Access

J1 Overview

- J1.1 Chorus and Analysys Mason have criticised the assumptions the Commission has made around throughput, the cost components used in NWS's costing exercise, and have raised concerns on FWA coverage and availability.
- J1.2 Analysys Mason's own model ignores the cost saving potential of FWA. This omission simply cannot be consistent with the concept of an HEO MEA.

J2 Capacity

- J2.1 Chorus and Analysys Mason have criticised the assumption of a constant 250kbit/s capacity. To allow for growth in capacity, our radio propagation design was carried out allowing a (generous) 20% year on year increase in throughput: from 250kbit/s in 2015 to 622kbit/s in 2020. As described in NWS's own Cross Submission, the FWA cost calculations NWS carried out for the sample areas have been revised accordingly, with a corresponding increase in UCLL price from \$30.89 to \$38.02, still noticeably below the Commission's estimate of \$47.73.
- J2.2 However we strongly support NWS' recommendation that the Commission should not assume any increase in throughput in dimensioning its FWA network. Areas suitable for FWA have a significant proportion of voice-only customers and so a significant proportion of connections will not be using the full throughput capacity, leaving spare capacity available for those customers

⁹¹ WIK Cross Submission, section 4.2 at [116].

who do have a UBA connection, NWS recommends that the network will be able to handle traffic growth without the need for upgrades.

Recommendation 37 Increasing throughput assumptions is not necessary as sufficient network capacity will exist to cater for the HEO customers' throughput growth, and even allowing for a generous 20% year-on-year capacity growth would result in prices still below the Commission's current model;

J3 Cost components

Equipment and core network costs

- J3.1 Analysys Mason submit that the cost of equipment and installation at customer premises should be included, and refer to the Swedish regulator's decision. However as highlighted in NWS Cross Submission's recommendation to exclude CPE costs: whilst the Swedish regulator allows for some wireless equipment costs at the customer site, it *explicitly excludes* the equipment and installation costs for CPE.⁹²
- J3.2 NWS also refer to the European Commission's regulatory regime for telecommunications which ensures access seekers to virtual unbundled local access (VULA) service - which can be compared to FWA - within which access seekers have choice over customer premise equipment (CPE).⁹³ Such control provides access seekers with the '*flexibility needed to differentiate services delivery to their customers*' and management of access at a local level will create '*conditions for sustainable competition across the internal market*'.⁹⁴ We think this is an important analogy.
- J3.3 We agree with NWS's recommendation:⁹⁵
- Consequently the access seekers should have the flexibility to choose and install CPE and thus it should not be the responsibility of the HEO deploying the FWA network. This will encourage innovation and competition along with creating opportunities for better quality of service for the end customers.*
- J3.4 Analysys Mason state that the Commission must include the cost of core infrastructure – switches, support nodes, remote node controllers – in its FWA infrastructure. We note NWS' finding that Analysys Mason's statement is inconsistent with its own 2009 access model for the ACCC which did not include additional core equipment – only the base station and backhaul network components were considered part of the access network.⁹⁶ The Swedish regulator's model did not include core cost components in FWA calculations. Whilst we agree with NWS that additional core network components should not feature in FWA costings, we also note NWS' findings that this argument is immaterial: these network inputs affect only the FTTN/copper

⁹² NWS Cross Submission, section 2.2.

⁹³ NWS Cross Submission, section 2.2.

⁹⁴ European Commission (2013), *Regulation of the European Parliament and of the Council: laying down measures concerning the European single market for electronic communications and to achieve a Connected Continent, and amending Directives 2002/20/EC, 2002/21/EC and 2002/22/EC and Regulations (EC) No 1211/2009 and (EU) No 531/2012*, 20 September 2013, page 21.

⁹⁵ NWS Cross Submission, section 2.2.

⁹⁶ Australian Competition and Consumer Commission (2010), *Analysys fixed network cost model – October 2010*.

network total cost and does not change the costing of the FTTH/FWA network which remains the lowest cost and thus the basis for the UCLL TSLRIC pricing.

Masts

- J3.5 We have stated that the correct hypothetical construct in which to consider the feasibility of sharing aerial infrastructure is that for the electricity distribution industry, which already exists. The same applies to considering FWA infrastructure, namely: mobile telephony infrastructure already exists and the current government policy on RBI exists.
- J3.6 Thus the relevant infrastructure costs to consider in FWA are the costs of co-location on existing mobile masts, or building masts that would otherwise be uneconomic using capital contributions from the RBI scheme, and not double counting such government contributions.

Spectrum charges

- J3.7 Chorus states the Commission must significantly increase the HEO's spectrum fee and Analysys Mason argues that the Commission should assume the FWA operator would face the price paid by the highest bidder in the recent 700MHz competitive tender auction attended by national mobile operators. We strongly disagree.
- J3.8 In response, we refer to our earlier submission that the HEO should, at most, be assumed to be renting a portion of spectrum from a mobile operator. The HEO is building its fibre and FWA network in a world where mobile operators already exist. It is inappropriate to assume away the existence of mobile operators who would could reasonably be expected to share or rent spectrum in uncongested rural areas.
- J3.9 We highlight NWS' finding that '*none of the existing publicly available TSLRIC models (for example, the Swedish⁹⁷ and Australian⁹⁸ cost models) include a spectrum fee for the provision of FWA*'. However we agree with NWS that it could be reasonable for the Commission to assume some fee is paid by the HEO for access to spectrum required for FWA, as this assumption would be consistent with our recommendation that the Commission consider rental access to existing mobile masts, and aerial infrastructure.
- J3.10 We agree with NWS' that Chorus and Analysys Mason's suggestions are completely unrealistic for an HEO providing FWA only in limited areas. Moreover:⁹⁹

[...] the spectrum fee suggested by Chorus and Analysys Mason is completely unrealistic for a HEO who will be providing only FWA services and in limited areas/zones. If the HEO was to provide additional services (such as mobile) on a national level it may be possible to justify paying the spectrum fee levels achieved in the auction. In that case revenues from the multiple streams using the spectrum would decide what proportion of the spectrum fee should be allocated to FWA services.

⁹⁷ Post- och telestyrelsen (2013), *Hybridmodell version 10.1*, 16 December 2013.

⁹⁸ Australian Competition and Consumer Commission (2010), *Analysys fixed network cost model*, October 2010, available at <http://www.accc.gov.au/regulated-infrastructure/communications/fixed-line-services/fixed-line-wholesale-services-pricing-review-2009-2010/consultant-report>.

⁹⁹ NWS Cross Submission, section 2.2.

J3.11 We also highlight WIK's view that: "*the appropriate assumption regarding spectrum fee is that the HEO will not have to pay spectrum fees*".¹⁰⁰

OPEX

J3.12 We have already submitted that the OPEX costs the Commission has assumed for FWA masts are overestimates. We disagree with Chorus' suggestions that overseas OPEX values are appropriate inputs for FWA OPEX costings and we note NWS' concerns on the applicability of this data to local NZ conditions. Instead we refer the Commission to the cost inputs in NWS' FWA calculations, as these reflect actual annual OPEX for open access and single operator sites provided by Vodafone and Spark. The Commission may wish to include a downwards efficiency adjustment on our actual costs.

J3.13 However it is important to stress the fundamental point that our preferred approach is for the Commission to assume, where feasible, that the HEO is sharing rather than co-building rural infrastructure, and it is the marginal costs of that sharing that are relevant.

Recommendation 38 For FWA modelling, do not include the cost of equipment and installation at customer premises, nor the cost of core network infrastructure.

Recommendation 39 Assume the existence of mobile networks and their existing infrastructure, and accept that an HEA deploying FWA would share both spectrum and masts.

Recommendation 40 Accept that co-location charges, rather than build costs, are most material to the HEO's cost for FWA masts. Spectrum fees should be a rental fee paid to mobile operators rather than assuming an FWA operator would compete for a national spectrum licence against mobile operators.

J4 Coverage and availability

J4.1 We agree with concerns raised by Chorus and Analysys Mason with regards to coverage and availability problems in the Commission's FWA model. Similarly, WIK '*fully agree with Chorus' assessment that Vodafone's RBI network is not an efficient proxy for the HEO's FWA network*'.¹⁰¹

J4.2 Our view – that only a network optimisation design and costing exercise can inform where a profit maximising HEO would deploy FWA in lieu of fixed lines – is summarised in our submission and was given effect to by our own radio engineers' network design (propagation modelling for 100% coverage using the same planning tools as used for Vodafone's actual network designs) and Network Strategies' FWA concurrent costing exercise for an FWA service.

J4.3 We submit again that the Commission's approach has been overly conservative in not considering the most advanced LTE technology, basing the location of FWA transmitters on the existing location of Vodafone mobile and RBI masts rather than the greenfield optimisation of FWA site locations that would be undertaken for a profit maximising HEO's LTE deployment. The Commission confined FWA deployment to RBI areas only, used a conservative cap on the number of premises that can be served per tower, and assumed inefficient network design by serving the

¹⁰⁰ WIK Cross Submission, section 4.9.

¹⁰¹ WIK Cross Submission, section 4.9.

most costly users with FWA and connecting others via fibre. Chorus has similarly assumed only 67 users served per site rather than 67 users per sector with three sectors per site.

- J4.4 Chorus and Analysys Mason criticised the Commission's assumption that an HEO would deploy FWA based on Vodafone's RBI network. Our own approach has been consistent with this criticism: a key input to NWS' FWA costing exercise was the RF propagation exercise carried out by Vodafone engineers for actual coverage, based on LTE 700MHz deployment.
- J4.5 Chorus has argued that it would not be cost effective for an HEO to provide FWA to RBI areas. NWS' approach is again consistent with this concern: an HEO would make FWA deployment more cost efficient by extending back into small towns away from the main cities (Zones 3a and 3b). We submit again that the correct hypothetical world for the Commission to consider is the current NZ policy context, in which the RBI programme exists, and any government subsidies currently available would similarly be available to the HEO (and accordingly, should not be double recovered).
- J4.6 Chorus's arguments regarding FWA failure rates can be discounted: arguments are based on failure rates from technologies deployed a decade ago, and for Australia, which has a vastly differing terrain. Such concerns may be valid were the Commission to consider FWA via a broad-brush theoretical network design, but however are not relevant if the Commission adopts our recommended approach of actual radio propagation modelling showing how an HEO would optimise its FWA network: achieving 100% coverage and assuming (and including the costs for) repeater installations where necessary.
- J4.7 We strongly recommend that the Commission adopts the approach of our FWA propagation modelling and NWS' cost calculations: all coverage and availability issues have been considered, and the FWA cost calculation has been designed to easily integrate with TERA's fibre model.
- J4.8 A clear explanation of our radio engineers' propagation modelling assumptions and parameters was provided in NWS' FWA February Submission. Moreover, should further discussion of their approach be useful, we would be happy to make our radio engineers available to Commission staff including a demonstration of the propagation analysis that could be carried out on-site at Vodafone's Auckland offices using Vodafone's radio propagation planning software.

Recommendation 41	LTE-advanced technology should be assumed. Our own OPEX costs should be included in the Commission's model, rather than higher benchmarks from overseas;
Recommendation 42	Recognise that coverage and availability concerns have been properly addressed in our own FWA radio propagation modelling exercise: allowing 100% coverage and reflecting local New Zealand deployment costs.
Recommendation 43	Accept that a network optimisation design and costing exercise is necessary to inform where a profit maximising HEO would deploy FWA in lieu of fixed lines.
Recommendation 44	Adopt the approach of our FWA propagation modelling exercise and NWS' cost calculations: all coverage and availability issues have been considered, and the FWA calculation will integrate with TERA's fibre model.

K WACC

K1 WACC comparisons

- K1.1 Chorus argue that the draft WACC is below that set for local fibre companies in NZ, the WACC for NZ EDBs and below those of telecommunications companies in other countries. Moreover, Chorus argue that the Commission has departed from its input methodology determinations. We do not agree with these criticisms.
- K1.2 NWS have estimated CEG's proposed changes would increase the WACC by approximately 1 per cent. However NWS have examined each of CEG's arguments and find no substantive case to change the various input parameters to the WACC calculation, and thus recommend no change to the WACC.
- K1.3 In particular NWS raise an important concern: that "*CEG's comparison is a benchmark analysis of benchmarks. It is highly questionable whether some of the operators or countries within these benchmark samples are suitable comparators for an HEO in New Zealand.*"¹⁰² Further, due to seemingly selective inclusion of operators the comparator analysis results will contain a bias towards the more frequently included companies.
- K1.4 In response to Chorus's instruction that the Commission carry out a reasonableness check on the WACC (including that the Commission compare against WACC premiums allowed for fixed access networks) we respectfully suggest the Commission might take into consideration the WACC most recently determined by the ACCC for its draft decision on wholesale fixed access charges : 2.9% (or 5.4% nominal).

¹⁰² NWS Cross Submission section 3.1

Recommendation 45 Retain the current approach to estimating the WACC, which we believe is appropriate. Do not adopt CEG's benchmark analysis of benchmarks.

K2 WACC components

Asset beta

- K2.1 Chorus argue for an asset beta of 0.5. We agree that the Commission should not include the years of the GFC in its period of analysis for the asset beta and agree that for forward looking estimates the most recent data available should be used.
- K2.2 However we do not agree that a 20 year period would be suitable, as this would imply telecommunications is a stable industry, rather than an industry characterised by ongoing technical developments and dynamic efficiencies, market structure changes, competition between platforms and falling revenue streams. NWS' Cross Submission highlight that Ofcom places '*most weight on the 2-year beta*', and has found no evidence to suggest that European regulators adjust data or lengthen data series to smooth out the effects of depressed asset betas during the GFC. We agree with NWS's commendation of Oxera's advice: '*betas have fallen and there is no reason to believe that investors would expect them to rise to pre-2000 levels*'.¹⁰³
- K2.3 NWS' Cross Submission assesses CEG's survey of international regulatory decisions on asset betas and found significant differences in the sampling technique: regarding both the inclusion and exclusion of countries and companies and the time periods for data used. Moreover the subjective judgements required to set asset beta clearly differs across regulators. Thus CEG's analysis appears to be a benchmark analysis of benchmarks: which we believe is inappropriate in setting a WACC.
- K2.4 Finally, there are very real differences in the timing and nature of the development of competition across the New Zealand electricity and telecommunications industries, and thus we agree with the Commission that it is not necessary to consider time periods used to set asset betas in the input methodologies as binding precedent when considering the telecommunications industry.

Cost of debt

- K2.5 Our response to Chorus' cost of debt submissions includes:
- (a) Chorus argue the **debt risk premium** assessment should be based on bonds issues by NZ energy gentailers, and CEG argues that the Commission should include bonds for 3 electricity gentailers as these firms face similar regulatory risks to Chorus. We do not agree. There have been no political suggestions affecting telecommunications analogous to 2014's NZ Power central purchasing proposal, and the regulatory framework for setting Chorus' wholesale access prices has been well understood for many years and so factored in by investors.

¹⁰³ Oxera (2014), *Review of expert submissions on the WACC for UCLL/UBA*, 4 November 2014, page 7. Bold text is in the original.

- (b) Chorus argue for **debt issuance costs** between 0.35 % and 0.28%, for a 7 or 10 year term respectively. CEG assume debt issuance costs will be incurred upfront on a one-off basis. As noted by CEG itself, this is conservative. We submit that such costs may be spread across the seven year timeframe. We also support NWS' concerns regarding CEG's reliance on a 2010 PwC survey of debt issuance costs that is based on data that is between five and twelve years old, and which includes outlier firms (e.g. Silver Fern Farms) that inflates the sample averages.
- (c) Chorus argue the **benchmark term for the cost of debt** should be 10 years. We support NWS' Report's recommendation (repeated in NWS' Cross Submission) that the Commission consider updating its survey as local circumstances are more appropriate in this case than international benchmarks. We also share NWS' concerns that omitting the Colt Group's data point (of zero debt) results in a simple mathematical error: CEG's calculation of a 10.7 year average is thus an over-estimation.

Recommendation 46 Use forward looking estimates of the asset beta the most recent data available.

Recommendation 47 Do not adopt Chorus' submissions on the cost of debt: electricity gentailers face higher regulatory risk than Chorus. Debt issuance costs should be spread across seven year. The Commission should update its survey on the benchmark term for the cost of debt.

K3 Asymmetric risk uplift to the WACC

- K3.1 Chorus (and L1 Capital) argue that in setting the WACC consideration must be given to the consequences of asymmetric error and asymmetric risk and so an uplift applied. We do not agree.
- K3.2 We share WIK's concern regarding the inconsistency inherent in arguing for an uplift to the WACC:¹⁰⁴

Several submissions criticize that the Commission has not applied an "uplift" applied to its mid-point WACC estimate of 6.47%.¹⁰⁵ The same submitters argue in favour of an "orthodox" approach to apply TSLRIC to secure "predictability" of the modelling outcome. This is a rather opportunistic combination of arguments. It is the "orthodox" approach of regulators around the world to use the mid-point WACC estimate and not to apply any "uplifts".

- K3.3 Both Chorus and L1 Capital ignore that the Commission has explicitly considered the asymmetry of catastrophic risk: for example by already including the costs of seismic bracing and backup generation.
- K3.4 WIK also critiques Hausman's view that the risk premium approach advocated in the European Commission's NGA Recommendation is relevant to the Commission's TSLRIC exercise, as being irrelevant to the New Zealand context:

The risk premium approach in the EU context is recommended in the context of wholesale pricing for FTTH access services which compete against legacy services and explicitly not in the context of pricing for legacy infrastructure. Moreover, the European Commission's 2013 Recommendation

¹⁰⁴ WIK Cross Submission, Section 2.1

¹⁰⁵ For instance Chorus February Submission at [51]; L1 Capital February Submission, page 11.

explicitly states that a risk premium should not be applied to provide VDSL services. Transposed to the New Zealand environment the concept of the EU Recommendation implies that a risk premium on the WACC might be considered for the determination of wholesale services provided over the new UFB fibre networks but would not be appropriate for services which are provided over the legacy copper infrastructure. This holds regardless of the fact the Commission intends to calculate the relevant cost of the legacy infrastructure on the basis of an FTTH MEA.¹⁰⁶

K3.5 In Chorus' own model, the WACC is inflated at 8.1%. The return on capital is further inflated as no adjustments for tax is allowed for in the Chorus model's titled annuity calculation.

Recommendation 48 Do not apply an uplift to the WACC: asymmetric risk already features in the WACC component calculations and estimations.

¹⁰⁶ WIK Cross Submission, section 2.9.