Vodafone Submission

New regulatory framework for fibre:

Submission on Fibre Regulation Emerging Views

16 July 2019

Contents

Executive Summary

We welcome the opportunity to submit on the Commerce Commission's Fibre Regulation Emerging Views paper. We have chosen to focus on a small number of highly material issues. We have focussed on those areas that:

- are highly material, and have a lasting impact that cannot be amended at a later date; and/or

- have a significant impact on the incentives faced by the LFCs in the first regulatory period.

Based on these criteria, we have focussed on: the impact of the regime on existing and potential competition, the over-estimation of the losses calculation, how to best implement a quality regime, and how to design Capex rules to suit the telecommunications sector.

The impact on existing and potential competition

Promoting workable competition is one of the most important features of the Part 6 regime. However, under the current settings, there is too much opportunity for competition to be distorted or stifled altogether.

The LFCs must not have regulatory rules that disincent them from making economically rational decisions on assets where they may face competition. We are already seeing this play out with Chorus and the other LFCs refusing to sell certain assets (like the end-user ONT) on unbundled connections despite this being a way to recoup some of the costs of otherwise unused assets.

This is likely because they believe that they can claim these assets are stranded and retain their costs in their Regulatory Asset Base (RAB). However, as we demonstrate in this submission, few assets at layer 2 meet the definition of stranding, and even some layer 1 assets may find alternative uses if they are no longer used for fibre to the home connections as a result of competition.

To align the Local Fibre Companies' (LFC's) incentives with those of a competitive market, all assets that are unused must be removed from the RAB. Any compensation for stranding must only apply to the risk of truly irreversible assets becoming stranded.

Similarly there must be no compensation for deregulation. The regime is intended to mimic the outcomes of a competitive market. There is no reason to expect a worse outcome under competition. The risk of losing market share should be accommodated within the regime up to the point that a service is deregulated, because it is no longer considered to have significant market power. After that point it is up to the LFC to ensure that they earn a reasonable return, just like everyone else in a competitive market. Any compensation would provide a cross-subsidy from monopoly to competitive services, putting other players at a significant cost disadvantage.

An unbundling input methodology (IM) remains critical to the long term success of the regime. Far from being outside of the scope of Part 6, we consider it essential to meeting the purpose in s166(2)(b) to promote workable competition. This IM should specify how layer 1 and layer 2 assets should be allocated in disclosures. This would ensure that interested parties can assess whether the layer 1 price offered by the LFCs is consistent with costs, or if they are attempting to stifle competition.

Over-estimation of the losses

The losses calculation as proposed by the Commission is overly generous, especially to Chorus. The end result is a significant windfall gain for Chorus, and will result in end-users paying significantly more for fibre services for decades.

In setting the loss asset, the Commission must ensure that the LFCs are neither overly rewarded nor punished for their decision to participate in the UFB Initiative. In other words, the Commission must ensure the LFCs are economically indifferent to the investment, consistent with the overall NPV=0 approach to fibre regulation. This is the only way to avoid regulatory opportunism against either the LFCs or end-users.

In practice, this principle is best implemented via an incremental cost calculation, which is consistent with how a firm in a competitive market would assess losses.

An incremental cost approach is also consistent with the copper regulations that has operated in parallel during the losses period. These regulations were implemented as a price cap, meaning that there should be no retrospective compensation for changes in copper demand. The copper prices were also based on a stand-alone network, and there was no allowance made that some costs were recovered through a parallel fibre network.

We are also concerned that the Commission's proposed approach ignores a potentially significant tax benefit. If losses are actually incurred in any year an LFC will be able to use these losses to off-set its tax burden in other parts of its wider business. The Commission acknowledges this benefit exists, but fails to account for it. This benefit must be subtracted off the losses calculation.

The quality regime should build off industry expertise

We would like to see the Wholesale Service Agreements (WSAs) agreed by the industry continue into the new regime. These agreements are the result of hard fought negotiations and represent an effective compromise that is delivering good results for end-users.

The level of detail in the WSAs is important and must be retained. We rely on these details around process and service specification. If these are removed after 2022 it will cause significant uncertainty, and is likely to drive costs into the delivery of broadband services to end-users.

We therefore propose that:

- The Commission set a quality measure requiring the LFCs to have an approved WSA in place.

- A WSA can be considered by the Commission on a 'propose and approve' type regime, similar to the Capex IM. The Commission could set certain criteria that the WSA proposal has to meet, such as industry agreement, consultation with end-users, consideration of all quality dimensions etc.

- To help with the transition, the current WSAs could be deemed as approved WSAs at the start of the regime.

- The LFCs would only need to apply to the Commission when they are seeking a change to the WSAs. These changes will typically be negotiated and set at a high standard through industry fora before being presented.

Adjusting the Capex regime to fit the telecommunications sector

The Capex approval regime needs to be more nimble and responsive than the major Capex regime implemented under Part 4 of the Commerce Act. The telecommunications sector is always rapidly changing, and the regulations need to keep pace.

No approval process should last more than a year, and most should be significantly faster. In the submission we provide some initial views on upcoming Capex projects and the appropriate level of oversight required.

More needs to be done to promote competition incentives

The most important difference between the Part 6 fibre regime, and regulations set under Part 4 of the Commerce Act is the level of current and potential competition. To date the Commission has not fully considered the implications of competition. Without making some critical changes the LFCs will be faced with significant perverse incentives.

Section 166(2)(b) requires that the Commission promote workable competition where relevant. With the Commission's current approach, there is a real risk that competition will be stifled rather than promoted.

There are three key issues that require further attention by the Commission to ensure that the optimal level of competition is achieved:

1. Asset stranding rules need to mimic competitive outcomes
2. There must be no compensation for deregulation
3. Layer 1 / layer 2 cost allocation rules need to be specified in the IMs, consistent with the guidance currently being developed by the Commission.

Asset stranding should mimic competitive outcomes

The potential for competition on certain parts of the LFCs' networks means that asset stranding has to function in a fundamentally different way to regulations under Part 4 of the Commerce Act.

Simply retaining assets no longer used for Fibre Fixed Line Access Services (FFLAS) in the RAB provides poor incentives for the LFCs. In many cases any unused assets can be reused or sold. For example, many layer 2 assets can be sold, and with layer 1 assets there may be reuse opportunities in a competitive market. The LFCs must have incentives to seek out these opportunities.

The regime therefore must:

- remove unused assets from the RAB; and
- consider whether an adjustment to the WACC is necessary to reflect the risk of irreversible assets becoming stranded.

To do so, the Commission must estimate the risk of asset stranding. This must then be compared to the risks already accommodated for the in WACC to determine whether any adjustment is required.

Calculating the risk of stranding has two parts:

1. estimating which assets are at risk of stranding; and
2. estimating the likelihood that these assets will be stranded.

Only a limited number of fibre assets are at risk of stranding

When defining which assets are at risk of stranding, the Commission must start with its own definition.

> *Asset stranding is an event which is related to irreversible investments. Where an investment is committed in expectation of the returns made from that investment, asset stranding occurs when the actual returns are less than necessary to compensate for the initial investment due to 'other' events.*[1]

The key term in this definition is **irreversible investments**. A significant amount of fibre investment is reversible. As detailed in our previous submission, this is particularly true of layer 2 assets. As an operator of both an unbundled copper network, and the Hybrid Fibre-Coaxial network in Christchurch, Wellington and Kapiti, Vodafone has experience in managing layer 2 assets.

There are a number of actions that can be taken to manage demand:

- Only ordering and installing equipment as it is needed, and changing orders where circumstances change. This will be critical for the fibre networks, as

[1] Commerce Commission, "Fibre regulation emerging views: Technical Paper", 21 May 2019, para 594.

uptake is not currently at 100%. LFCs must have the incentive to not install to a 100% market share if competition increases.

- Move equipment to adjust to where demand is strongest. The layer 2 equipment at an exchange (OLTs) are not large pieces of equipment. They can easily be moved and redeployed as necessary.

- Negotiate commercial agreements that allow surplus equipment to be returned to vendors – who can then re-deploy it through their international networks.

- Sell equipment to other market participants. For example, we have requested the ability to buy the ONTs off the LFCs in the event of fibre unbundling. So far they have refused, which is likely to stifle competition from emerging.

Even where there is some stranding of layer 2 equipment at the fringes, the impact will be small. Our experience is that layer 2 equipment needs to be regularly refreshed (about once every five years), providing frequent opportunities to down size to reflect a LFC's current market share.

The Commission must also consider the ability for assets to be stranded. For example, it is unlikely that the DFAS and ICABS services will ever be stranded. These are important input for mobile backhaul from cell towers, which is used for both mobile and fixed wireless access.

The only assets with a genuine risk of stranding are the physical infrastructure and dark fibres used on the GPON network.

The risk of stranding has been over-played

In fibre, the main risk of stranding is where competition emerges. There are two main ways this could occur:

- fibre unbundling; and

- growth in coverage and capability of Fixed Wireless Access (FWA).

The Commission must assess the likelihood and impact of these forms of competition emerging. Vodafone and Vocus are focussed on the opportunities arising from fibre unbundling. However, based on the proposed prices and terms offered by the LFCs, the current likelihood of unbundling occurring is low.

If prices are adjusted to reflect competitive rates, the Commission will have ample information by 2022 on market uptake to develop a good forecast of the positive impact of fibre unbundling.

It remains uncertain whether FWA will become a broad base competitor and over what timeframe. A key determinant will be the development of 5G in New Zealand. The ability and impact of 5G FWA to compete against fibre will be based on a number of factors yet to be determined, including the government's decisions on spectrum that is yet to be auctioned, availability and price of equipment from vendors, which is rapidly changing, and the potential for demand to outstrip wireless capabilities in the short term.

It is also likely that significant parts of the network that are at risk of stranding (layer 1 GPON infrastructure) will find a use under a scenario of wide 5G fixed wireless coverage. A dense 5G network will require a lot more backhaul. The GPON infrastructure may find an alternative use in providing this service.

The WACC may already accommodate stranding risk

The theory and application of the WACC as proposed by the Commission is likely to already accommodate for any stranding risk. The Commission must start with the assumption that the WACC as currently specified is sufficient to cover all stranding risk. The burden of proof to show otherwise must sit with the LFCs.

Asset stranding will be at least partially a systematic risk. Competitors to the LFCs will likely offer services at a lower cost, so in the event of a systematic downturn end-users may turn to these alternative networks more.

Systematic risk is already compensated for in the asset beta. Many of the comparator firms proposed by CEPA face very similar, or even greater risks than the LFCs. For example BT have been required to open up their ducts and poles for competitors to build alternative networks to compete alongside them. Telecom Italia is also facing wide-spread competition, with Open Fibre building an alternative fibre network across most of Italy.[2] Both of these examples are a far deeper form of infrastructure competition than faced by Chorus on unbundling or FWA.

[2] https://openfiber.it/en/fiber-optic/infratel-area/coverage-plan

Some of the risk of asset stranding is also likely unsystematic, and therefore will not show up in the beta. The Commission has traditionally been weary of including adjustments in the WACC for unsystematic risk. For example the Part 4 IMs, explicitly do not account for unsystematic risk.[3] This is because investors are able to mitigate this risk by diversifying their investment portfolio.

However, the Commission has also previously noted that if unsystematic risks are unique to the regulatory environment, and these risks are asymmetric, then some adjustment to the WACC may be appropriate.[4]

In this case, asset stranding doesn't meet this threshold. The stranding risks faced by the LFCs is similar to the technology/competitive risk faced by any firm, it is not unique to their regulatory settings.

There are also a number of overestimations in the WACC, that will likely off-set any unaccounted risk. These are largely unquantifiable, but must be considered by the Commission in making a judgement on whether any uplift is necessary (for asset stranding risk or any other risk).

In the past the Commission has noted that the application of a revenue cap, rather than a price cap would theoretically reduce the level of systematic risk, and therefore should reduce the WACC.[5] It has not been possible to quantify the size of this benefit, however it is clear that it exists, and should come into any judgements made by the Commission.

As we demonstrated in our last submission,[6] the Commissions approach to leverage also means that the WACC is likely overestimated. This is because the Commission typically applies a fixed leverage ratio, which CEPA recommends should sit between 29% and 35%, whereas Chorus, for example, actually has a leverage ratio of 76%. We estimated that compared to applying Chorus' leverage assumptions to a traditional CAPM, the WACC will result in a significant overestimation. Updating this for the leverage assumption proposed by CEPA means Chorus will be over-compensated by approximately 0.30 - 0.37 percentage points.

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[3] Commerce Commission, "Input Methodologies (Electricity Distribution and Gas Pipeline Services): Reasons Paper", December 2010, para H2.3.
[4] Commerce Commission, "Draft Guidelines: the commerce Commission's Approach to Estimating the Cost of Capital" 2015, paras 130-140.
[5] Commerce Commission, "Input Methodologies (Electricity Distribution and Gas Pipeline Services): Reasons Paper", December 2010, para H8.146.
[6] Vodafone New Zealand 'New Regulatory framework for fibre: Cross-submission' 1 February 2019.

In response the Commission noted that:

> *Even using the standard CAPM, Chorus's higher leverage does not necessarily result in a lower cost of capital. For example, the higher leverage may have an impact on their credit rating, affecting the debt premium on their issued debt.*[7]

However, evidence suggest otherwise. Despite having such a high leverage ratio Chorus has maintained a BAA2 credit rating.[8] In its 2018 Annual Report Chorus also notes: "Moody's Investor Services has noted in a credit opinion that the transition to a regulated utility model could support a higher leverage profile within Chorus' Baa2 credit rating".[9]

We do not suggest that the Commission explicitly remove this overestimation or move to a different CAPM model. We support the use of this methodology as it better suits the New Zealand environment than any other alternative. We also appreciate that using a fixed leverage ratio is a pragmatic way to resolve the leverage anomaly of the Simplified Brennan-Lally CAPM.

However, the Commission must take this overestimation into account when applying their judgement on whether any uplifts are required to the WACC. We consider that the magnitude of these overestimations more than compensates for any unaccounted for risk of stranding.

There must be no compensation for deregulation

We disagree that LFCs should be provided with any compensation for services that become deregulated. Deregulation can only occur if effective competition emerges. The LFC must then be fully exposed to competitive pressures, and earn its money in the market like everyone else.

Deregulation is different from asset stranding. The LFC will continue to earn competitive revenue on deregulated services. There is no evidence that an LFC's

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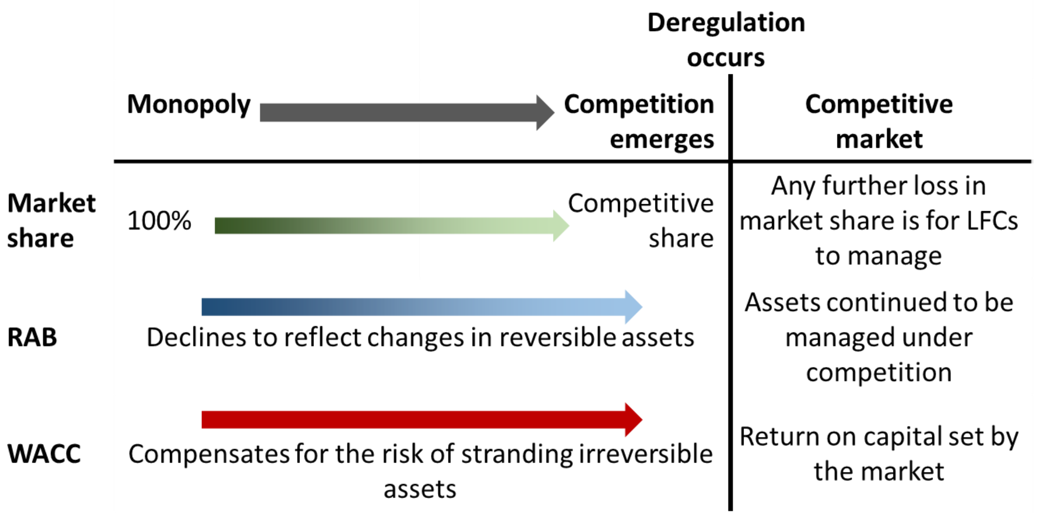
[7] Commerce Commission, "Fibre regulation emerging views: Technical Paper", 21 May 2019, para 653.2.
[8] Moody's BAA2 is generally considered to be equivalent to S&Ps BBB rating, whereas the Commission has assumed a BBB+ rating for the nominal WACC. However, the comparator firms chosen by CEPA typically sit at a BBB- rating for wholesale service providers, and a BBB+ rating for integrated service providers. This comparator group (or the resulting debt premium) would be unlikely to change if the assumption was moved to a BBB credit rating.
[9] Chorus, "Annual Report 2018" p8.

assets will be any more stranded under competition than they were just prior to deregulation occurring. For the Commission to recommend deregulation, there must be evidence of competition in the market. After that point it is up to the LFC to maintain its market share by competing effectively.

Any asset stranding through the transition from a monopoly service to competition should already be compensated for in the regime. As above, the WACC should compensate for the risk of partial stranding of assets that are inflexible to changes in market share. Compensating for deregulation would be double-counting this allowance. This is represented in figure 1 below.

Figure 1: Changes before and after the decision to deregulate



If the Commission were to compensate for deregulation, it would effectively be giving the LFC a cost advantage in the competitive market it is entering. This is most obvious for the option of retaining assets that support deregulated services in the RAB. This would mean the LFC can cross-subsidise its deregulated service with income from its monopoly services. All other options will, in effect, have the same outcome. This is a clear violation of the requirement in s166(2)(b) to promote workable competition.

We are also unsure of the Commission's ability to determine the value of any compensation for deregulation. As the Commission notes, asset values may change upon deregulation. But this is not objectively observable, it needs to be calculated. To do so the Commission must assess any difference between FCM and expected returns for deregulated services.

We are unsure of the Commission's mandate to assess either profitability or FCM for out of scope services. The Commission refuses to apply FCM to other out of scope services (i.e. copper), creating a bias that heavily favours the LFCs over end-users.

An unbundling IM is an essential part of the regime

A Fibre Unbundling IM is a critical part of the regime. It is key to the Commission fulfilling its obligation to promote workable competition. It cannot be dismissed as an optional extra.

The Commission's key objection to an unbundling IM appears to be that it sits outside the IM purpose. We couldn't disagree more. The purpose of the IMs is to promote certainty of the rules, requirements and process of regulations under Part 6. Fibre unbundling is a critical part of the Part 6 regime.

In the first instance, an unbundling IM would relate only to ID only as no price caps are set. The purpose of ID is to ensure that sufficient information is readily available to interested persons to assess whether the purpose of Part 6 is being met. In turn, one of the purposes of Part 6 is to promote workable competition (s166(2)(b)).

Unbundling is one of the few mechanisms that will help promote competition. As an interested person, we will only be able to assess the success of this purpose if full information is disclosed about unbundling.

This IM should detail how to costs are allocated between layer 1 and layer 2 on a granular basis. With this information we would be able to assess compliance with LFC's Equivalence of Inputs and non-discrimination obligations. This would provide sufficient information to assess whether workable competition was being stifled or not.

The Commission has committed to developing guidance that should achieve this purpose.[10] This must be included in the IMs. Otherwise there is a risk that disclosures will be developed that are inconsistent with guidance produced by the Commission - an unfortunate outcome that will only serve to confuse, rather than promote certainty.

[10] https://comcom.govt.nz/__data/assets/pdf_file/0021/151581/Commission-response-to-Vocus-Group-New-Zealand-and-Vodafone-New-Zealands-letter-of-11-April-2019-Layer-1-unbundling-price-4-June-2019.pdf

The proposed approach to losses is overly generous

The way that losses are calculated will be the most material decision in the initial setting of the IMs. This is not only because of the potential size of the loss, but because this value cannot be adjusted later if better information comes to light. This is the one and only chance that the Commission has to get it right.

In our view, the Commission should put significant resource into this critical component. Applying assumptions, short-cuts or simplifications on the basis of time or resource pressure is simply not acceptable on a decision of this magnitude.

We remain of the view that Chorus in particular does not look or act like a business that has suffered any losses. In the last submission, we highlighted the very healthy return on investment that Chorus earned over the losses period. We are unsure how the Commission can simply ignore this fact and proceed with an approach that will allow Chorus to artificially inflate its asset base to the detriment of end-users.

While the Act requires the Commission to consider losses, we remain of the view that if this is applied properly no losses will be found. In this submission we provide further evidence to back up this claim:

- We propose the principle of indifference to guide the Commission's decisions. This leads towards an incremental cost approach.

- We show that the Act provides sufficient discretion to allow the Commission to apply an incremental cost approach.

- We show that an incremental cost approach is consistent with the copper regulations that operated in parallel for Chorus, and can be practically implemented.

- We then provide reasoned responses to the Commission's objections to an incremental cost approach.

- Finally we provide comments on the windfall gains the LFCs will gain on tax under the Commission's proposed approach, why the WACC needs to be different for the losses period, and an issue around the timing of Crown funding.

The Commission must ensure the LFCs are not excessively rewarded for participating in UFB

We recommend that the key guiding principle the Commission should apply in calculating of the losses is:

> **Ensure the LFCs are neither punished nor excessively rewarded for their decision to participate in the UFB initiative.**

In other words, set the losses so that the LFCs are economically indifferent to the investment (when the appropriate costs of capital and discount rates are taken into account). Indifference is a central concept in economics, and underpins the NPV=0 approach of the building block model that the Commission has proposed to apply.

In practice this means implementing an incremental cost approach, as we and many other submitters proposed in the last round of consultation. This would assess whether the revenue earned from UFB was sufficient to cover the incremental costs of participating in the project.

This is the best approach for a number of reasons:

- **Consistency with the regime after 2022.** It is most critical that the underlying economic principle of indifference is maintained, rather than the specific application of forward-looking cost allocation.

- **Avoiding regulatory opportunism.** The LFCs mustn't be punished for participating in the UFB initiative. But neither must end-users be punished for providing funding for that initiative by paying again for sunk costs already allocated to other services.

- **Consistency with how firms in a workably competitive market act.** Most firms assess projects on an incremental cost approach. This allows them to assess whether the project reached at least indifference, given their cost of capital (NPV=0). This point was elaborated in more detail in our last submission.

- **Consistency with the broader regulatory settings**. For Chorus, most common costs have already been allocated to copper. Any under-recovery in copper revenue would have occurred whether Chorus participated in the UFB initiative or not.

The Act provides sufficient discretion for the Commission to implement an incremental cost approach

In the Emerging Views paper the Commission states that the Act prohibits them from implementing an incremental cost approach.[11] We consider this to be a very narrow interpretation of the Act, and ignores the considerable discretion given to the Commission.

The Act requires the Commission to determine the financial losses "incurred by the provider in providing fixe line access services under the UFB initiative". The Act says nothing about how to allocate common costs.

As the expert body the Commission is tasked with applying its judgement to the losses to determine which (if any) common costs are relevant, including:

- Whether to attribute any existing sunk costs incurred prior to December 2011 to fibre.[12]

- The portion of incremental common capex that should be recovered under the UFB initiative.

- Whether to include any common operating expenses.

[11] Commerce Commission, "Fibre regulation emerging views: Technical Paper", 21 May 2019, para 364.
[12] Section 177(1)(a)(ii) (which instructs the Commission how to deal with assets that were owned before December 2011) does not apply. The losses asset will be established as at 1 January 2022, it was not 'owned by Chorus before 1 December 2011'.

An incremental cost approach is consistent with the copper price caps

For the entire losses period Chorus' copper services have been regulated by a series of price caps. These prices were initially set based on international benchmarking, and then from December 2015 they were based on a TSLRIC calculation of the costs of a Modern Equivalent Asset.

There are two crucial assumptions made on all of these price caps that must be taken into account when assessing the losses:

- **None of the models factored in a parallel fibre network**, and certainty did not reduce copper costs on the assumption that another network would share the infrastructure costs. For example in the FPP, the Commission justified having no sharing on the basis of confidential Chorus data that indicated Chorus had been investing a significant amount in new ducts for UFB in 2012, 2013 and 2014 in comparison to average annual investment in ducts over the period 2005 to 2011.[13]

- **The form of control on copper for this entire period was a price cap**, as opposed to the revenue cap that will be applied for fibre services. The key difference between a price cap and a revenue cap is that under a price cap there must be no compensation (or recoupment of revenues) for changes in demand. Setting a price cap for copper was a deliberate choice by Parliament, and should not be undermined by the Commission.

The conclusion that must be reached from these two assumptions is that the copper prices were sufficient to cover the entire cost of the copper network. None of these costs need to be recovered from fibre revenues, as has been proposed by the Commission's cost allocation methodology.

Any decision now to retrospectively change these assumptions would cause serious damage to future regulatory certainty and predictability.

[13] Commerce Commission (2015), *Final pricing review determination for Chorus' unbundled copper local loop service*, 15 December 2015, para E194.

Applying an incremental cost approach

This section provides some initial views on how the Commission could practically apply an incremental cost approach across Capex and Opex.

Applying an incremental cost approach to Capex

The input methodologies only need to determine how to calculate the capex component of the losses. These are also the more conceptually simple costs to allocate on an incremental cost approach.

- All Capex that existed prior to December 2011 must not be allocated to UFB services. These costs are sunk and would have been incurred by Chorus regardless of whether it chose to participate in the UFB initiative or not. Furthermore, the assumptions made by the Commission mean the prices set for copper services are sufficient to cover these costs.

- Common Capex after December 2011 must only be attributed to the extent that it was utilised for the UFB initiative. The burden of proof should sit with the LFC, but be assessed by the Commission. For example, the Commission can apply a cross-check by comparing to Capex incurred in areas where Chorus is not deploying UFB.

Applying an incremental cost approach to Opex

While Opex is outside of the scope of the IMs, we mention this now, as the Commission should start considering these issues early so they can be properly applied in the determination of the initial RAB.

Allocating Opex will be most complex for Chorus because of the parallel copper price caps. While the FFP used a TSLRIC model based on a hypothetical efficient supplier, the Commission relied heavily on Chorus' actual costs – especially for Opex. The Commission cannot now justify ignoring these allocations.

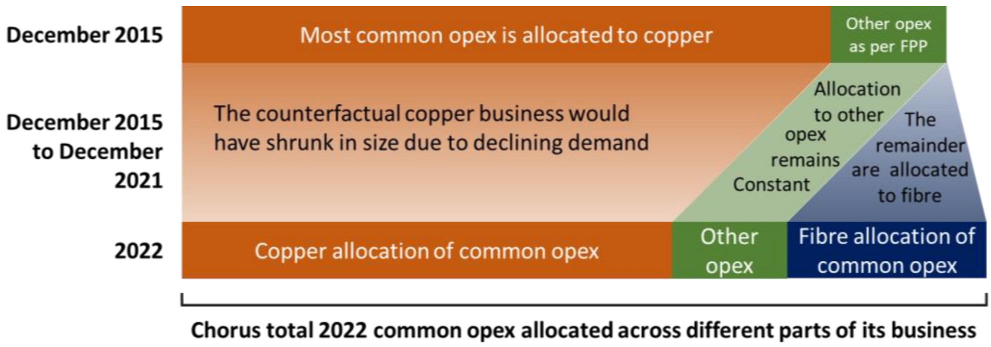
There are two factors to consider when determining how much of Chorus' common Opex must be allocated to copper.

- Under a price cap regime, once costs have been allocated, there must be no retrospective adjustments to allocate them to another service again. Any reallocation would breach the requirement of a price cap regime to not compensate for changes in demand.

- However, we also accept that if Chorus was not awarded the contract for part of the UFB build, its Opex costs may have declined as the business reduced scale.

To solve for this, the Commission should assume that as at 2015 all common Opex is recovered through copper prices and other services consistent with the allocation in the FPP. Assumptions then need to be made as to how the copper business would have down-scaled for changes in demand. The allocation to other Opex should remain the same as initially set in the FPP for consistency. The allocation to fibre Opex can then be determined as the remainder of Opex costs to ensure costs remain fully allocated. This is represented in figure 2 below.

Figure 2: Applying an incremental cost approach to Chorus' common Opex



Copper's share of common network Opex (e.g. maintenance costs) would likely reduce in line with changes in demand. However, in the past the Commission has assumed that there would be efficiency savings on fibre that meant network Opex would only cost 60% of what it did under copper. This means that on a consumer by consumer basis, more network Opex must remain allocated to copper than to fibre.

Non-network Opex (overheads) were almost entirely allocated to copper under the FPP. In the model documentation issued with the revised draft determination the proportion of total non-network costs allocated to copper services was revealed to be

82.3%.[14] The remainder was assumed to be allocated to other non-broadband services.

These non-network costs cannot be re-allocated to fibre, or it would breach the core principle of applying a price cap regime to copper. However, it is fair to assume that without the UFB build, Chorus would have reduced the size of its business and reduced non-network Opex. This reduction would not have been perfectly aligned with the reduction in connections because significant parts of non-network Opex are fixed; they do not adjust perfectly to scale. We expect there will be regulatory precedents to calculate how much non-network Opex reduces for a reduction in connections.

The Commission's objections to an incremental cost approach don't add up

Table 1: responses to the Commissions objections to an incremental cost valuation of losses

Commission concern with an incremental cost approach	Vodafone response
An incremental cost approach is inconsistent with a building blocks approach[15]	We are unsure how the Commission's decision to use a building blocks methodology has any impact on cost allocation decisions. The methodology simply defines how costs are added together, to achieve NPV=0. As far as we are aware the model says nothing about how input costs should be determined.
An incremental cost approach is inconsistent with FCM[16]	We are unsure how FCM helps determine the correct level of cost allocation. If the Commission sets cost allocation incorrectly this will result in an under- or over-recovery of costs. However, this provides little insight into how to determine what the correct level of cost allocation should be.

[14] TERA Consultants, 2015, 'TSLRIC price review determination for the Unbundled Copper Local Loop and Unbundled Bitstream Access services Model documentation, Public version', June 2015, p46.
[15] Commerce Commission, "Fibre regulation emerging views: Technical Paper", 21 May 2019, para 347.
[16] Ibid, para 360.5

Commission concern with an incremental cost approach	Vodafone response
It would provide a disincentive for achieving efficiency gains from sharing prior to the implementation date.[17]	The LFCs have very strict build requirements set by CIP. CIP will continue to oversee the build up to the implementation date. We are unsure what opportunities the LFCs would have to avoid efficiency gains from sharing.
Due to the level of sharing, an incremental cost approach could exclude a material number of costs.[18]	The materiality of this decision makes it important to get right so that New Zealanders are not burdened with higher fibre prices for decades to come. Its materiality is not a reason to gift an inflated starting RAB to the LFCs.
An incremental cost approach would not fulfil the intent of s177[19]	We disagree. s177 provides significant discretion to the Commission in determining the losses. It is free to apply any allocation of common costs based on its expert judgement.
The legislation requires different methodologies for the copper pricing and for the fibre revenue cap under Part 6[20]	Past copper price caps assumed a price level to cover all copper costs. There is no need to assume UFB revenues contribute to any common costs that would not exist except for fulfilling the requirements of the UFB initiative.

Tax must not grant a windfall gain

The Commission's preliminary view is that the tax benefit of any losses prior to 2022 should not be included in the calculation of the value of the loss asset. This will create a clear windfall gain, which seems contrary to the Commission's intent.[21]

Ignoring the tax benefit of any losses is also contrary to other tax decisions made by the Commission. Typically the Commission looks to adjust models to reflect likely tax

[17] Ibid, para 347
[18] Ibid, para 364
[19] Ibid, para 364
[20] Ibid, para 385.1
[21] Ibid, para 899

benefits. For example, in the FPP the Commission adjusted the tilted annuity capital charge to account for the tax benefit of deducting depreciation expenses.

In the Emerging Views Paper, the Commission concludes that the benefit of the reduced tax burden would have been used by Chorus and the other LFCs to offset profits in other parts of the business or group.

We agree with this assumption. Even if disclosures later show that it is not strictly true, we appreciate that it would be simpler to apply tax in this way rather than creating a complex deferred tax system.

However, if the other parts of the business or group are receiving a tax benefit from losses on fibre assets, this must be taken into account. In our last submission we recommended that this could be treated as a credit paid by the other part of the business or group to acknowledge their otherwise lower tax burden.

Ignoring this tax benefit to the wider group would be a significant over-recovery compared to the tax costs paid by Chorus and the other LFCs. This would be another windfall gain, imposing costs on New Zealanders that have nothing to do with the costs of building the UFB network.

The WACC and the discount rate must be re-calculated for the losses period

Another significant over-compensation proposed by the Commission is how the WACC is applied during the losses period. The Commission proposes to apply the post-2022 WACC methodology to both the calculation of the return on capital during the losses period, and the discount rate to inflate costs to their 2022 value. We disagree with both of these assumptions:

- The WACC rate during the losses must take account of the significantly lower risk faced by the LFCs during this period.
- The discount rate must be consistent with the methodology the Commission has applied in the past under Part 4 of the Commerce Act.

During the losses period, the LFCs were operating under a government mandated scheme. This would have significantly reduced the risk they were facing, and as a result means the level of risk assumed in the asset beta must be different, than the WACC applied going forward.

This is particularly important if the Commission decides to apply any WACC uplift, either because of the risk of stranding irreversible assets, or the asymmetric consequences of over- vs under-investment. We strongly oppose any uplift going forward, but it is entirely inappropriate in the losses period.

If the Commission uses the WACC as the discount rate it will be diverting from the precedent set under Part 4 of the Commerce Act. As the Commission notes "Parliament made a deliberate decision to base the regulatory model in Part 6 on the existing model in Part 4". The Commission goes on to say that they will depart from Part 4 where differences are necessary "in light of the particular provisions of Part 6 and the telecommunications sector".[22]

There is no apparent difference in the provisions relating to the discount rate in Part 6 or any differences in the telecommunications sector that would drive a different outcome.

While we appreciate the theoretical argument put forth by Dr Lally on this matter, the Commission must also consider the implications of making a single significant deviation from the Part 4 precedent. The Part 4 regime is a complex mix of incentives and trade-offs. Simply changing one decision upsets that balance, and will only end up harming end-users.

Timing of Crown Funding must occur in the same year as the premise is passed

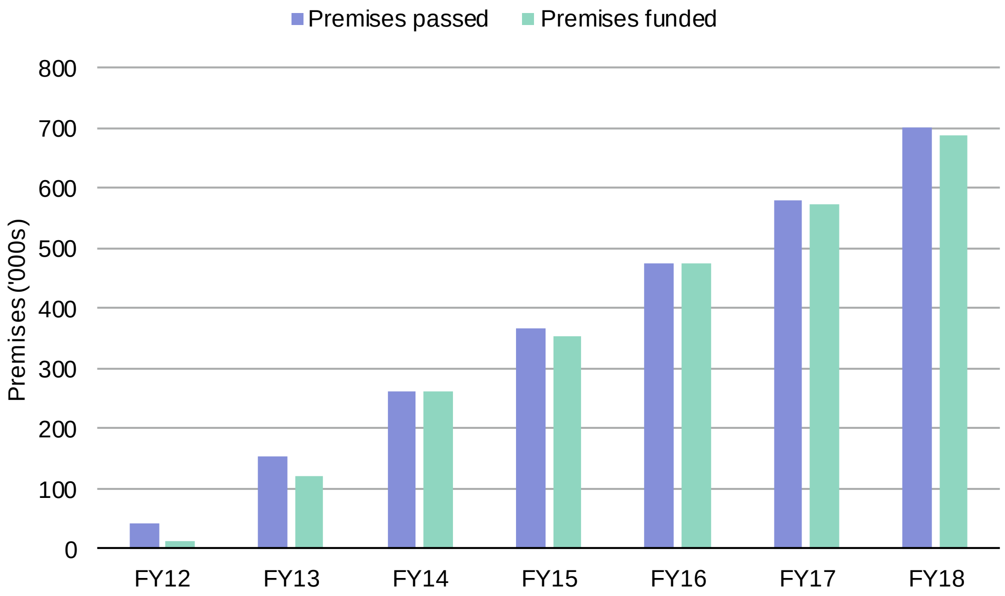
In the Commission's worked example of the estimation of past losses, it is assumed that government funding for UFB (an average of $1118 per UFB1 premise or $1828 per UFB2/2+ premise) is received in the year after the premises were passed.

However, Chorus' annual reports show that almost all Government funding associated with the incremental premises passed is received in the same year rather than deferred to the following year (Figure 3 below). There have been only a very small number of premises for which the payment was deferred. By the end of FY18

[22] Commerce Commission, "Fibre regulation emerging views: Technical Paper", 21 May 2019, para 8.

700,000 premises had been passed with funding received for around 685,000 premises.[23]

Figure 3: Cumulative Chorus premises passed and funded by Government[24]



[23] Chorus, Annual Report 2018, page 48.
[24] Data collected from Chorus Annual Reports

Industry expertise on quality must be harnessed

The quality of fibre products are currently governed by the Wholesale Service Agreements (WSAs). These agreements cover everything from service levels, reporting requirements, and very specific processes for industry consultation on changes to services.

It is critical that the level of detail provided in the WSAs is retained. These agreements have been carefully negotiated by industry with CIP oversight to suit the level of prescription required for the industry.

The agreements were initially set in 2012, but more recently Chorus' SLAs have been updated to reflect current requirements. The agreements represent a hard fought compromise reached by the industry, and have served the sector well over the years.

We are concerned that these agreements may be lost in the new regime.

- Clause 22.3 of the General Terms allows the LFCs to terminate to WSAs with 12 months' notice from 2020 (we assume we can read this as 2022 now given the extension?).

- The Deeds of Open Access Undertakings for Fibre Services (the Deeds) only require a reference offer to be in place. They do not require the LFCs to reach industry agreement.

- The Deeds only require a reference offer for 'required services'. After 2022 this may be interpreted to only apply to the Anchor products + DFAS products offered by Chorus.

If the WSAs are terminated and unsatisfactory agreements are established in their place, it seems unlikely that the quality measures proposed by the Commission will be a sufficient replacement. As noted by the Commission, they intend to aim for less prescription, and won't specify process steps, or service standards.

We therefore suggest:

- A quality measure requiring the LFCs to have in place an approved WSA.
- This can be set on a 'propose and approve' type regime, similar to the Capex IM. The Commission could set certain criteria that the WSA proposal has to meet, such as industry agreement, consultation with end-users, consideration of all quality dimensions etc.
- To help with the transition, the current WSAs could be deemed as approved WSAs at the start of the regime.
- The LFCs would only need to apply to the Commission when they are seeking a change to the WSAs. These changes will typically be in the industry's interests, so will likely be negotiated and set at a high standard before being presented.

Feedback on the Commission's Proposal

Notwithstanding the above recommendation, the following sections provide some commentary on the quality dimensions proposed by the Commission and sets out which service levels are most important to us as an RSP.

The categories of quality proposed by the Commission (CEPA's quality dimensions plus customer service) cover most aspects of quality on a fibre network. We provide two observations on these categories:

There are too many quality dimensions

The quality dimensions are practically very difficult to apply. Many existing SLAs would fit across multiple categories, potentially making the regulation more complex than it needs to be. For example installation cycle time could easily be categorised under ordering or provisioning, and most performance measures can be categorised as faults, availability, or performance depending on their severity.

We suggest that the proposed quality dimensions could be simplified down to three categories, for no loss of clarity:

- Customer set-up (covering ordering, provisioning and switching);

- Performance (covering faults, availability, and performance); and
- Customer service.

The quality IM must also cover minimum service standards

The Act provides very basic guidance on the scope of the fibre services, defining it as the network structure connecting the user-network interface to a specified point of interconnection.

Both the NIPAs and the WSAs define the scope of each type of service to a much finer level of detail (Bitstream 2, Bitstream 3, Bitstream 4, etc). The industry relies on these definitions to accurately define service capability and the boundary between services provided by the LFCs and those provided by RSPs.

Without these service descriptions the LFCs may be free to simplify service offerings, reducing their costs. This may be simply by moving to a new equipment standard that is incompatible with RSP equipment. This will pass enormous cost on to RSPs, potentially at a saving to the LFC.

The service descriptions also specify certain capabilities that are required to be provided under certain service categories. For example the Bitstream 3a Accelerate service allows up to 4093 VLANs to be passed transparently from the end-users premise.

While we don't anticipate the LFCs changing these capabilities in the short term, opportunities may arise in the future to reduce their costs by removing certain capabilities. This would be a detriment to end-users who can no longer get the same service outcome.

We therefore propose a new quality dimension relating to service standards. This can easily be implemented by monitoring compliance with the service descriptions in the current WSAs.

Critical quality measures

Table 2 overleaf uses the simplified quality dimensions proposed above to highlight the most critical quality standards for fibre services. It indicates where these are already covered by Chorus' updated WSAs, and where they could be further enhanced to improve outcomes for end-users.

Table 2: Key quality measures necessary for the fibre regime from 2022

Quality measure	Requirements in Chorus' WSA	Comment
Simplified quality dimension 1: Customer Set-up		
Processes for a service request, OSS/BSS setup, B2B portal setup, etc.	Covered in detail in the Operations Manual	
Customer set-up cycle times	Various cycle time thresholds are set in the service level terms. Breaches require action, but no penalty	This is sufficient. Focussing on missed appointments is a better measure to provide financial incentives.
Missed appointments	One month rebate for each missed appointment	This is a critical SLA, it must be retained in the new regime.
Provisioning Multi-cast capability for an RSP	Must be provisioned within 3 months, with a rebate of up to one month rental	
Bandwidth upgrade for existing connections	Must be completed within 1 business day	
Intact connection	90% of intact connections are provisioned within 4 hours, and 100% within 1 day (unless a truck-roll is required, then activation must be within 5 days). Rebate of one month rental for any breach	

Quality measure	Requirements in Chorus' WSA	Comment
Switching process		This is covered in the TCF Customer Transfer Code. This is sufficient for the new regime.
Simplified quality dimension 2: Performance		
Restoration of OSS/BSS system	Process for restoration is set out in the Operations Manual	
Restoration of B2B portal	Operations manual sets a target availability of 99.5%, but has no penalties	This is a mission critical system. When it is out we can't service our business customers. Rebates for any unexpected outages are appropriate to drive the right behaviour from Chorus.
Performance levels	WSAs set various performance measures across frame delay, frame delay variation, and frame loss	The average performance targets could be re-considered. Some measures like frame delay variation could be relaxed for little or no impact on end-users. Others like EIR frame loss set the acceptable threshold far too high. We would also like to see the introduction of performance thresholds that accurately define when a fault occurs, and penalties are applied. i.e. below what point is a service considered unacceptable, and effectively offline.

Quality measure	Requirements in Chorus' WSA	Comment
Fault restoration	WSAs set restoration time standards. There is a rebate of one month rental each time a standard restoration time is not met, and 2 months if the standards are not met for an enhanced service	In the latest updates of the WSAs the industry shifted the focus away from service availability to fault restoration. This has been a better measure to deliver the right outcomes. It is critical it is retained in the new regime.
Fault reporting	WSAs cover some fault reporting standards	Reporting on both frequency and duration of faults could be improved in the new regime. Should be reported publically and frequently and disaggregated down to a node level. No need for penalties, so long as there are good fault restoration timeframes and rebates.
Simplified quality dimension 3: Customer Service		
Customer satisfaction survey	WSAs require a survey to be completed, with a target score of 70% or more. No penalties	Important to retain this reporting. However, it is currently too difficult to attribute responsibility, so penalties are inappropriate.
Process for making changes to services or price	These are set out in detail in the Operations Manual	RSPs have a customer relationship with the LFCs. It is important that this measure is retained to ensure appropriate customer service is maintained.

Quality measure	Requirements in Chorus' WSA	Comment
		These processes have been enforced using standard contract law. This is sufficient, but will only be possible if these standards are retained in the WSAs.
Simplified quality dimension 4: Service Standards		
Standards for each category of service offered by each LFC	Currently covered in the Service Descriptions component of the WSAs	Critical that these are retained, as discussed above. However, it is most appropriate to simply adopt those that currently exist and support the industry to agree to any changes.

Capex IM must balance speed with oversight

In the telecommunication sector, consumer preferences change fast, and the industry needs to keep up. Fibre uptake has exceeded everyone's expectations, and new products are constantly emerging to meet new demand. For example, the Fibre Max plans were only introduced outside of Dunedin in 2016, and at the time were generally considered a niche product. We are now seeing these become the mainstream.

Oversight of major capital expenditure is critical to balance the incentives at play in the regime. As noted by the Commission, this is particularly important where there is a risk of over-forecasting, or a risk of inefficient investment.

However, in the telecommunications sector, the Capex rules need to be nimble and flexible so that Chorus is both able and incentivised to act fast to keep up with demand. A review process that takes two to three years to complete is simply not appropriate for any expenditure.

To achieve this balance, a nuanced approach is needed to assess capital expenditure. We propose that the Commission implements a sliding scale that balances the need to act fast, against the need for oversight across different Capex projects. Some mechanisms may be simply used as a back-up as needed. For example, only requiring an independent verifier report if there is industry disagreement.

The level of oversight needs to be proportionate for any project. We expect that even those with the highest level of oversight would take at most a year to complete the approval process. Each assessment process may not consist of the same mechanisms, but the total sum should aim to be achievable within a year.

Figure 4 below provides our initial view of how this balance should be struck for some key Capex projects that Chorus will be facing in the coming years.

Figure 4: Level of oversight required for key upcoming Capex projects

Capex	Speed vs Oversight	Comments
ONT refresh		Typically refreshed once every five years. Requires substantial industry consultation, to allow for sufficient testing
GPON/tech upgrade		Choice of standard will be key, and should be tied to consumer demand (eg, XGPON, NGPON2, Active Ethernet etc).
Network expansion outside UFB		Expansions beyond the current UFB 1 & 2 boundaries requires maximum oversight to ensure it is in the interest of NZ Inc
Capacity expansion		Largely predictable, and needs to be very responsive to demand. Can be managed as a base capex pool.
Infill		Depends on the size of investment. Ranging from sub-dividing a single property to a new sub division
Major disaster rebuild		Significant oversight required, similar to initial build. However need to ensure it moves fast as well
Replace damaged equipment		Very predictable, can be considered 'base capex' and managed as a pool
New products		Depends on the nature of the new product. A new speed configuration like fibre max should be implemented quickly, compared to a new standard that will need industry testing
Anything layer 3+		Following any approval to offer services above layer 3 there needs to be through capex oversight.