Submission in response to the Commerce Commission's fibre regulation emerging views dated 21 May 2019

16 July 2019

FOREWORD

1 The Commerce Commission's (**Commission**) Fibre Regulations Emerging Views Paper (**EV Paper**) is a solid basis for developing Input Methodologies (**IMs**) that can support future growth and investment.

2 We thank the Commission for the considerable work that has gone into producing a quality EV Paper and for our opportunity to respond to it.

3 The EV Paper confirms a number of key elements of the new regulatory framework. This submission responds, and proposes some changes, to the views set out in that paper.

4 We expect the Commission's starting point on key issues to be driven by its experience in establishing and applying price-quality regulation (**PQR**) under Part 4 of the Commerce Act (**Part 4**) for other utilities. Part 4 is a good starting point, but this utility model is established under the Telecommunications Act (**Act**) and will need to respond to the different industry and investment context.

5 As is well known, Chorus and the other Local Fibre Companies (**LFCs**) partnered with the Crown, following competitive tender processes, to upgrade a large part of New Zealand with fibre to the home (**FTTH**) under the Ultra-Fast Broadband (**UFB**) initiative.

6 This meant significant investment by the private sector ahead of demand. The Crown determined how the rollout of that investment was to occur. In addition, products and prices were contractually required to be attractive to encourage fibre uptake.

7 For these reasons it is appropriate that Chorus is able to include in its regulated asset base (**RAB**) the value of the financial losses it incurred in the pre-implementation period and carry over any revenue under-recovery to subsequent regulatory periods. The FTTH choice, and its successful roll out, is already enabling and supporting current and future demand growth from consumers. There has been a 49% compound annual growth rate in fixed line data usage over the last 6 years, the industry is heavily engaged in supporting the Rugby World Cup online later this year and Olympic broadcasters are already promoting the next high definition 8K television broadcasts for next year.

8 Changes in consumer demand and use cases (such as e-sports and virtual reality), as well as technology upgrades like 10GPON and potential 5G mobile technology, continue to demonstrate how dynamically this industry evolves.

9 The primary purpose of this initial implementation exercise is to transition from a Crown contracted model into a utility-style regulatory model without shocks for anyone.

10 Chorus' share price movement of around 10% on release of the EV Paper demonstrates the potential for the Commission's decisions to cause shocks for investors if those decisions are not aligned with reasonable investor perceptions of risk and return. This size of movement reflects a potentially significant misalignment of expectations. This has not been a one off impact but has continued since the release of the EV Paper. This impact negatively affects private sector infrastructure investors

whose investments serve the long-term interests of consumers in New Zealand in this sector. More generally, this creates concerns about significant future investment in any industry in New Zealand.

11 The EV Paper has not provided full details to calculate an indicative cost of capital. Nevertheless, the indications have been viewed very negatively in the market and could potentially imply one of the lowest cost of capital calculations for a regulated utility in New Zealand on the information available so far. To inform the Commission's consideration of a draft cost of capital IM we have included a range of expert economic reports. As noted below, these provide evidence that a range of parameters should be significantly adjusted to be principled and reflective of the particular exercise at hand. We request that, in addition to considering the principles and approach for various cost of capital parameters and risks to be addressed, the Commission applies a reasonableness and sense check of the aggregated view of all of its cost of capital proposals and the outcome within the context of this particular industry.

12 Given our world leading approach to public private partnerships on generational FTTH upgrades, we have substantial investor interest in understanding the content of the EV Paper and contrasting that approach with international experience – e.g. the European approach of providing a cost of capital uplift for fibre.

13 The importance of the Commission's decisions in implementing this new regulatory regime can't be underestimated. While the Commission is drawing on expertise and experience that it has gained from Part 4 regulation, those industries and models are operating in less dynamic circumstances. In parallel, world leading economists recognise the nature of the dynamics in this industry need careful up front thinking to design and communicate the right conceptual framework (a lifecycle perspective). They also emphasise the importance of ensuring the financial capital maintenance (**FCM**) principle, presented in previous Commission regulatory decisions, is upheld over this lifecycle and not just within regulatory periods. And it's a view we support.

14 Ensuring FCM will include the Commission factoring into its decision-making some of the unique risk factors faced by open access fibre fixed line access service (**FFLAS**) providers. Our submission highlights how this might be done.

SUMMARY OF OUR VIEWS

Government objectives

15 The Government's objectives for the Broadcasting, Communications and Digital Media portfolio recognise that broadband has an increasing role as an enabler of social inclusion and economic growth:[1]

> *The digital economy is not new, but it is becoming an increasingly important driver of New Zealand's economic growth and the wellbeing of all New Zealanders. Technology underpins more of how our businesses operate and how New Zealanders participate in economic and social activities. Investment in connectivity infrastructure is putting in place a strong foundation for the country's digital future.*
>
> *The aim is to enable New Zealand to become a leading digital nation – a nation with a thriving digital sector, where businesses, people and government are all using digital technology to drive innovation, improve productivity and enhance the quality of life for all New Zealanders.*

16 The Government also recognises the increased role fibre networks will be playing in the infrastructure that supports other goods and services:

> *The high expectations of telecommunications systems, including resilience in the event of a natural disaster, are reflected in telecommunications' status as a lifeline utility. Many initiatives across other sectors also reflect these high expectations. For example, the intelligent transport systems that have the potential to transform the safety and efficiency of our road networks depends on reliable connectivity that allows vehicles and other infrastructure to communicate with each other.*
>
> *The bar is continually being raised regarding the level of capability and performance of communications networks, as well as the ancillary data services needed to attract and grow successful businesses. The technology sector is now the 3rd largest sector in New Zealand, responsible for $6.3 billion (9 per cent) of exports and $16.2 billion (8 per cent) of GDP.*

17 One of the policy outcomes the government sought from the new regulatory framework was to incentivise Chorus to keep building its fibre network beyond the UFB footprints currently agreed:[2]

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[1] Ministry of Business, Innovation & Employment (26 October 2017), *Briefing for the Incoming Minister of Broadcasting, Communications and Digital Media*, at [13-14].

[2] Economic Growth and Infrastructure Committee (10 May 2017), *Review of the Telecommunications Act 2001: Final Decisions on Fixed Line Services, Mobile Regulation and Consumer Protection*, p 26.

To achieve these goals, it is important that the regulatory regime is predictable, stable, and that network owners have the right incentives to invest and expand their networks. A regulatory framework that supports efficient private sector investment should decrease dependence on government intervention to drive network upgrades and meet the growing needs of consumers.

Recent utilisation trends

18 The utility model should provide ongoing investment incentives and that's appropriate as we are presently seeing an increase in the rate of data utilisation and throughput of New Zealand consumers. Businesses and government are also increasingly reliant on resilient digital services. This trend was noted in the Commission's 2015 Annual Monitoring Report.[3]

19 The game Fortnite pushed demand for data to new peaks last year.[4] We have also planned for a 44% increase in network utilisation during Rugby World Cup games.

20 On top of these new applications, we expect existing applications will evolve and require greater bandwidth as 4K televisions become more widespread and the availability of 8K televisions and content grows. In turn, as the use of 4K and 8K cameras expands, more consumers will need fast upload speeds to store, edit and stream their video content. Other changes are occurring, for example, the streaming of video games via Google's Stadia service and competing platforms. We are also already trialling 10GPON services.

21 Chorus is well positioned to support ongoing consumer demand via our uncongested open access network. This increasing consumer demand has seen strong uptake of unlimited plans in New Zealand and increasing uptake of high speed plans. However, this trend means we must plan to continue investing ahead of demand and/or bring forward planned investment.

22 Our comments on the EV Paper are framed with these objectives and utilisation trends in mind.

Risks faced by suppliers in technology based industries

23 We have a positive view of the future for fibre. But we acknowledge that there are always risks in a technology industry. The dynamic nature of the industry means there may be future market developments that could see a significant impact on our ability to receive a return on and of our capital.

24 We were pleased to see this risk acknowledged in the EV Paper, and also that there are a range of possible solutions to address it. Each solution has strengths and drawbacks, depending on the circumstances that might eventually transpire.

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[3] Commerce Commission (22 June 2016), *Annual Telecommunications Monitoring Report 2015*, p 5.

[4] Chorus (18 June 2018), *Fortnite download leads biggest ever spike in data use on Chorus' network*. Retrieved from https://company.chorus.co.nz/fortnite-download-leads-biggest-ever-spike-data-use-chorus-network

25 As the Commission would expect, we have taken advice from a range of experts on how to address this risk within the utility model being implemented.

26 Our starting point was section 162 and the requirement that IMs need to produce outcomes consistent with comparable workably competitive markets (**WCM**).

27 One important insight we have gained from Professor Yarrow is that embodied within our capital investment is a significant quality or service value, which would normally result in a series of different price points resulting in different revenue profiles over the pricing lifecycle of our fibre services. This differential pricing provides protection from the risk of capital loss when the next set of capital investments occur.

28 In WCMs, the information about these price points is not known at the outset of the investment but discovered over time through the process of competitive rivalry. Or, in the case of regulated suppliers, by the provision of incentives.

29 A complicating factor for FFLAS regulation, in addition to the dynamic nature of the market itself, is the number of existing and proposed restrictions in the regime design (anchor services, pricing and access rules, revenue caps, and rules in other instruments (collectively **regulatory constraints**)). These regulatory constraints may interfere with the discovery of information about the pricing and revenue profile that will best ensure the return on and of our capital as we move to the point where the demand for our services supports increased capital recovery.

30 This creates a risk that we won't have the opportunity to earn a normal return on and of the capital we have invested in the fibre network.

31 As we see it, this risk covers not only the prospect of future competition but also the impact of market changes, and the cumulative effect of the decisions required to implement FFLAS regulation.

32 This is not a criticism of the Commission (or policy makers) but merely a reflection of the fact that the regime makes decisions at a static point in time. However, information relevant to those decisions changes over time.

33 Professor Yarrow notes that part of the challenge for the Commission is that incremental changes in legislation cannot properly be assessed in isolation. The effects that any set of rules and regulations will have on market conduct and performance are generally non-separable.

The Commission's task

34 The Commission's external economists and Professor Yarrow all raise the dynamic nature of the industry being regulated, and the need to consider this, but without being able to predict potential future outcomes – such as risks of asset stranding, future deregulation and under recovery.

35 The Commission has the very difficult task of addressing this risk that fibre suppliers do not get a return on and of their capital.

36 Given the complexity, we can understand the temptation to address these issues on an ad hoc basis over time.

37 However, the nature of ex-ante regulation requires the Commission to look forward. The Commission needs to think ahead, at the regime's inception, to provide an appropriate balance of regulatory certainty in the form of clear principles about how lifecycle issues will be addressed. This will best achieve the purpose of IMs and the need to provide incentives for investment, innovation and the sharing of efficiency gains. The risk of a 'decide as we go' approach is that regulated suppliers will simply not have enough certainty to continue to make the required future investments – something that's integral to the utility model.

38 Regulatory certainty also benefits consumers (through lower costs of capital), retail service providers (**RSPs**) and investors.

39 For this reason it's important to be upfront with consumers, RSPs and investors that the overarching objective is to ensure that at the point of any FFLAS deregulation, Chorus will have been afforded the opportunity to have received a return on and of its capital since 2011 and over the life of our assets (**overarching FCM objective**).

40 The overarching FCM objective aligns, as Professor Yarrow notes in his advice,[5] with the UFB Government Policy Statement (**UFB GPS**)[6]. The UFB GPS recognises the need for a 'whole lifecycle' perspective to ensure that revenues, **over the life of the assets**, are sufficient to cover efficient operating costs and a normal return on, and recovery of, capital invested [*his emphasis*].

41 The available tools, to mitigate the risk of not achieving the overarching FCM objective (**Type II asymmetric risk**), include:

41.1 **A supplementary margin** – A cost of capital supplementary uplift for Type II asymmetric risk (**Supplementary Margin**).

41.2 **Escrow account** – Accumulation of a fund (held in an escrow account) equivalent to the cost of capital Supplementary Margin to provide ex-post compensation for realisation of Type II asymmetric risk;

41.3 **Pricing flexibility** – Pricing flexibility so we can maximise the opportunity to meet our revenue cap;

41.4 **Depreciation** – The ability to change the depreciation profile to facilitate a revenue profile which more closely matches changes in demand; and

41.5 **Retain assets in the RAB** – The ability to retain assets in the RAB for a period of time.

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5 Professor George Yarrow (16 July 2019), *Questions relating to the regulation of fibre fixed line access services (FFLAS) in New Zealand*.

6 *Incentives for businesses to invest in ultra-fast broadband infrastructure*, 2011, available at: https://www.dia.govt.nz//Pubforms.nsf/NZGZT/NZGazette155Oct11.pdf/$file/NZGazette155Oct11.pdf#page=96

42 Our view is that a combination of these tools will be required but that the Commission should give clarity on when and how they will be applied.

Key comments on Commission's emerging views

43 We agree with the Commission's high level frameworks for thinking about most of the issues the IMs need to address. However, there are some important points of difference between FFLAS and other Part 4 regulated services (including in the legislative framework) that require adjustments to the approach the Commission proposes to apply here. Our key comments are summarised below with more detail in our submission and expert reports.

44 **Financial losses** – We support the Commission's decision to use a building block model (**BBM**) approach to valuing this asset and the Commission's proposal for the asset to be amortised over a period equivalent to the weighted average life of the assets included in the main RAB. However we diverge on three key issues, which we think require further analysis.

44.1 **Asset beta for financial loss** –The asset beta used to estimate the cost of capital for the financial loss asset must reflect the particular circumstances of the pre-implementation period. Oxera concludes that the asset beta should be higher due to higher demand risk, operational leverage and longer term cash flow risk in the pre-implementation period.

44.2 **Risk-free rate for financial loss** – The term of the risk-free rate applicable to the calculation of financial losses should match the relevant period for which the fibre prices have been set – from December 2011 to the implementation date.

44.3 **Treatment of Crown financing** – Our investors are very clear that Crown financing was not costless and that a zero return on the Crown financed portion of assets is inappropriate. Analysis from Incenta suggests that Chorus should receive a return of between 1.81% and 1.85% on the Crown Infrastructure Partner (**CIP**) financed portion of assets.

45 **Asset valuation** – We agree with most of the Commission's emerging views on asset valuation and future capital additions. We have previously expressed our preference (on behalf of our investors) for the earliest possible determination of the initial RAB. This remains a key uncertainty. We also agree with the Commission that there should be no ex-post efficiency test and no revaluation once an asset enters the RAB.

46 **Rolling forward the RAB** – We support the Commission's proposal to adopt a RAB roll-forward calculation similar to the Part 4 regime. Our views on key roll-forward components are summarised below:

46.1 **RAB indexation** – We support the Commission's proposal to apply RAB indexation to FFLAS, consistent with the approach taken in Part 4.

46.2 **Depreciation** – The profile of allowed depreciation should match the profiles of comparable WCMs. The Commission should recognise that there may be reasons to allow departures from straight-line depreciation in certain circumstances. An example of this is the IMs' approach applied to airports.

46.3 **Wash-up** – Our interpretation of the Act is that a symmetric, unconstrained wash-up should be applied to FFLAS for the first regulatory period (**RP**). We are keen to confirm that this interpretation aligns with the Commission's view.

47 **Cost of capital** – We support the overall conceptual framework the Commission proposes to adopt from Part 4 for determining the cost of capital. However we diverge on the application of this framework for a number of the cost of capital parameters. Our key points are as follows:

47.1 **Asset beta** – We support the Commission's approach to determining the asset beta but disagree with CEPA's analysis. In particular, we disagree with a number of CEPA's assumptions when determining the relevant comparator sample. Oxera's analysis suggests a range of 0.46 to 0.57 would be more appropriate, with a mid-point estimate of 0.52. Given the absence of pure-play fibre companies in the comparator sample, Oxera concludes that an asset beta for fibre should lie above the mid-point to reflect the higher risk of fibre businesses.

47.2 **Cost of debt** – We disagree that an appropriate credit rating for this analysis is BBB+. Oxera has produced evidence in support of a BBB rating.

47.3 **Tax Adjusted Market Risk Premium (TAMRP)** – We agree with the Commission's proposal to update the TAMRP and specify a value in the cost of capital IM.

47.4 **Cost of capital uplift for risks of mis-estimation of the cost of capital** – We disagree with the conclusion in the EV Paper that the consequences of under investment mean no uplift to the cost of capital is needed. Houston Kemp concludes there is a strong case for a cost of capital uplift for FFLAS. There is a direct and strong relationship between allowable cost of capital and Chorus' incentives for efficient investment. The negative consequences to consumers of under-estimating the true cost of capital for FFLAS are likely to comfortably exceed any negative consequences of over-estimating the cost of capital.

47.5 **Cost of capital uplift for Type I catastrophic risk** – We agree with the Commission that compensation for Type I catastrophic risk is best addressed by ex-post compensation mechanisms. Protection through ex-post compensation avoids windfall gains and losses with little dampening effect on incentives.

48 **Relationship of section 162 and 166(2)(b)** – Section 162 acknowledges that the long-term interests of FFLAS end-users will be best served if regulated fibre suppliers have incentives to innovate, invest, improve and share efficiency gains while keeping profit levels reasonable. Judgement will be required as to how best to reconcile decisions that return capital to Chorus in the manner that would occur in comparable WCMs (to maintain incentives for investment and innovation) with the prospect of competition from rival networks in the future. We do not see section 166(2)(b) as requiring the Commission to depart from the outcomes that would occur in a comparable WCM to give a 'leg up' to rival networks. If there is a conflict between section 162 and section 166(2)(b), the purpose statement in section 162 prevails.

49 **Economic principles** – We support the adoption of the three key economic principles of real FCM, allocation of risk and the asymmetric consequences of under and over investment and do not believe any further principles in relation to competition or pricing are required.

50 **Overarching FCM objective** – Consistency with real FCM needs to be achieved over the period from commissioning of the assets until deregulation to ensure consistency with similar WCMs. A commitment in the IMs to this effect would promote certainty and align well with commitments communicated in the UFB GPS in relation to the return on and of capital over the lifecycle of the relevant assets.

50.1 **Recovery of Type II asymmetric risk** – In dynamic markets where there is an equivalent quality value embodied in the capital value there is a risk regulated suppliers won't recover for Type II asymmetric risk. There needs to be a mechanism to mitigate or compensate for this risk. Restrictive rules that constrain revenues and/or pricing have significant potential to increase this risk if they interfere with recovery over asset lifecycles. Given the complexities within the regulatory framework, the Commission can't 'wait and see' but needs to factor these considerations into its conceptual decision-making at the start of the regime. We suggest this risk should be addressed in the IMs by an ex-ante commitment to the overarching FCM objective over successive regulatory periods.

50.2 **Solution to recovery for Type II asymmetric risk** – We propose that a number of options, that may be used in combination, should be available to address the different circumstances in which recovery for Type II asymmetric risk might arise. Affording Chorus more flexibility on the revenues, pricing and depreciation are the best tools to address the overarching FCM objective as these tools align with comparable WCM outcomes. However, this may turn out to be only a partial solution if the demand levels, anchor services pricing, and other regulatory constraints don't allow us to recover our capital costs. So it also makes sense for the IMs to provide for an escrow account, for the possibility that assets could be retained in the RAB for a period of time and a Supplementary Margin to address the consequences of early disruptive change.

50.3 **Supplementary Margin and escrow account** – As noted above, we have suggested an additional cost of capital uplift and presented options, including funding an escrow account to address asset stranding (ex-post) and/or a Supplementary Margin (ex-ante).

51 **Demand and cost forecasting risks** – We note the revenue cap reflects the difficulty of forecasting revenue for FFLAS when migration rates, consumer preferences and product price relativities are still being discovered. This form of regulation protects both Chorus and our customers from windfall gains or losses.

52 **Cost allocation** – Our issues around cost allocation are primarily about how to apply the principles both initially and over time, rather than about the principles themselves. We recommend that cost allocation is applied each year, as opposed to each RP, to ensure the cost allocations are as accurate as possible during the copper to fibre migration. We do not think a static cost allocation between FFLAS will facilitate the achievement of section 162 (a) to (d).

53 **Risk of over-specifying quality IMs** – We support the proposed quality principles and agree on the challenge of setting a quality IM that balances certainty and flexibility in a dynamic environment. Achieving this balance, combined with the transition to anchor services (based on services in the UFB agreements), suggests it would be a mistake to set overly prescriptive quality IMs at the outset of the regime. To add further prescription constrains us from being responsive in the market with non-anchor services and impacts our ability to receive a return on and of capital.

54 **Expenditure** – We agree the Transpower capex IM is a reasonable starting point for developing information requirements, a process and timeframes for a fibre capex IM. At this point in the design of the new regulatory regime, mechanisms that allow us to manage uncertainties within a RP will be an important feature of the capex IM.

55 **Orderly transition** – We are conscious there is limited time to finalise the IMs and determine the price-quality path. Chorus is also at an early stage in its asset management journey and is working to build the necessary capability to operate under the BBM. We therefore expect that transitional arrangements will be required to achieve an orderly implementation of the price-quality path.

LEGAL FRAMEWORK

Purpose statement

Our view continues to be that the purpose statement in section 162 has primacy over the objective in section 166(2)(b). Our key points in response to the EV Paper are:

- Section 162, as an express purpose provision, provides a mandatory cross-check for interpreting every other provision in Part 6. To the extent section 166(2)(b) results in an outcome that is inconsistent with section 162, it would fail that cross-check;
- Section 166 doesn't provide any objective criterion to assess how to make 'trade-offs' between the two potentially conflicting policy objectives. The Commission's proposed criterion is problematic – it essentially reinforces the emphasis on the long-term benefit of telecommunications services end-users over FFLAS end-users; and
- Placing the mandatory consideration in section 166(2)(b) above the section 162 purpose statement could effectively result in the Commission picking winners in the face of the policy choice of successive governments to invest in building fibre networks.

Relevance of the UFB GPS

In our view, given the UFB GPS is still in place, the Commission must have regard to it under section 19A of the Act.

FFLAS

- Defining the FFLAS under this new regime is a key step, once regulations have set the scope of the regulated FFLAS. The Commission is not regulating a particular part of our fibre network but rather fibre access services. This is an important concept. The scope of the FFLAS definition can be usefully thought about as interconnection with a specified part of our fibre network (the relevant handover point, which is located at a specified point of interconnection (**POI**)) connected with an end-user or access point.
- Given the relationship between the determination of the specified POIs and the scope of FFLAS, it's appropriate the Commission should consider developing its views on the scope of FFLAS in conjunction with determining the specified POIs under section 231. There are different POIs for our layer 1 and layer 2 services.

Purpose statement

56 We continue to believe that, where the purpose statement in section 162 and objective in section 166(2)(b) conflict, section 162 prevails. Where those sections conflict, the Commission needs to take a position that best promotes outcomes consistent with WCMs, for the long-term benefit of end-users of FFLAS.

57 We remain concerned that the Commission's approach could end up favouring telecommunications services end-users overall to the detriment of FFLAS end-users specifically, contrary to the section 162 purpose, and adopting decisions that do not best promote outcomes consistent with a comparable WCM.

58 We won't repeat our previous submissions on these points, although we think they remain true. Instead, we make the following comments on the Commission's response to our submissions.

59 First, the Commission's approach continues to overlook that section 162 applies to all of Part 6, including how section 166(2) itself should be interpreted. As an express purpose provision, section 162 provides a mandatory cross-check for the interpretation of the text of every other provision in Part 6.[7] It is therefore not correct to simply focus on the language of section 166 without undertaking that cross-check.

60 An interpretation of section 166(2) that permits the Commission to prefer the objective described in section 166(2)(b) over the purpose described in section 162 fails that cross-check. Unsurprisingly, the Commission's interpretation isn't required by the language of section 166. As we explained in our earlier submissions, section 166(2) is conjunctive, not disjunctive. As well, promoting workable competition for the long-term benefit of all end-users in section 166(2)(b) cannot be 'relevant' where doing so does not promote outcomes consistent with WCMs for the long-term benefit of FFLAS end-users.

61 Second, as previously noted, section 166 does not provide the Commission with any objective criteria to assess how to make 'trade-offs' between the two objectives in section 166(2). The Commission has proposed its own criterion: to make decisions that will "*best promote the long-term benefit of all relevant telecommunications' end-users*".[8] This criterion illustrates the issues with the Commission's position:

61.1 The Commission's proposed criterion is an abstraction of both the general purpose statement of Part 6 and the section 166(2)(b) objective;

61.2 To the extent the Commission's focus is on all telecommunications end-users, this places more weight on section 166(2)(b) than the general purpose statement under section 162 (although without the emphasis on promoting welfare through competition); but

61.3 It's not obvious why the Commission's general criterion should place more weight on section 166(2)(b) rather than the general purpose statement of Part 6. An orthodox statutory interpretation approach would say that this must be incorrect.

62 Third, the Commission's interpretation could effectively enable the Commission to pick winners in the face of the policy choice of successive governments to invest in building

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[7] *Interpretation Act 1999*, section 5(1); *Commerce Commission v Fonterra Co-operative Group Ltd* [2007] NZSC 36, [2007] 3 NZLR 767, at [22].

[8] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [73].

fibre networks. It's relevant in this context that the Select Committee did not take up our suggestion of a technology-neutral approach to defining the scope of Part 6, precisely because of this concern. It would be strange if the Select Committee had, despite this, empowered the Commission to do the same thing under another section of the same Part of the Act.

63 For completeness, we agree with the Commission that, when applying section 166(2)(b), the Commission is not required as a matter of law to prefer to promote competition in any one particular market. In our earlier submission we emphasised the importance of competition in the retail market to the long-term benefit of FFLAS end-users. However this is not a legal requirement - it's simply a practical reality for the industry. Put another way, in assessing how competition can be promoted in markets for the long-term benefit of telecommunications services end-users, the Commission will usually have to place particular weight on competition in retail markets in its decision-making given the significance of that market in shaping consumer outcomes.

Relevance of the UFB GPS

64 In our view, given the UFB GPS is still in place, the Commission must have regard to it under section 19A of the Act. Section 19A requires the Commission to "*have regard to any economic policies of the Government that are transmitted, in writing, to the Commission by the Minister*".

65 The requirement in section 19A is unlimited on its face. So technically the Commission must have regard to every extant GPS. But it is implicit that the Commission need only have regard to a GPS that is relevant to the exercise of the Commission's Part 6 powers.

66 The UFB GPS is relevant to decisions under Part 6 because it articulates policy objectives that directly bear on the exercise of the Commission's regulatory functions under Part 6, specifically determining IMs. The UFB GPS addresses the very policy objectives that the Commission is directed by government to implement through Part 6. The context for implementing these policy objectives is ongoing with implementation of Part 6. And the enactment of Part 6, and completion of UFB build, do not remove the relevance of the UFB GPS. To the contrary, the role of the UFB GPS was to provide certainty regarding the *future* regulatory treatment of UFB networks.

67 The fact that the reference to Part 6 in section 19A was only added in 2018 is not determinative of the relevance of the UFB GPS. There is nothing in the words of section 19A that suggests a pre-existing GPS does not apply to the exercise of the Commission's Part 6 powers.

68 The fact that the UFB GPS refers to Part 2 and Schedule 3, rather than Part 6, does not in our view limit the Commission to only having regard to the UFB GPS in relation to the exercise of its Part 2 and Schedule 3 powers. Section 19A directs the Commission to have regard to the UFB GPS when exercising Part 6 powers. So the fact that the UFB GPS only expressly mentions Part 2 and Schedule 3 does not mean

the Commission should ignore it when exercising its Part 6 powers. Further to this, the UFB GPS:

68.1 Speaks to the long-term regulatory treatment of the UFB initiative by setting an expectation of FCM 'over the life of the assets'. So regardless of which Part of the Act regulates FFLAS, the GPS sets out policy positions that are relevant to the regulatory treatment of FFLAS, and therefore relevant to the exercise of the Commission's Part 6 powers.

68.2 Was intended to create an enduring expectation about the regulatory treatment of fibre. It would seem perverse if that expectation could be defeated by a drafting decision to put fibre regulation into a new Part of the Act rather than by amending Part 2 and Schedule 3.

69 The Commission says that Part 6 has its own purpose statements and the UFB GPS doesn't add anything to section 162(a). We have a different view, and consider that the UFB GPS both aligns with, and provides reasonable elaboration of the purpose, including section 162(a).

70 A critical point of the UFB GPS that the Commission should be guided by is:[9]

> *ensuring that any price regulation proposed under Schedule 3 of the Telecommunications Act 2001, that may occur in the future, recognises that revenues, over the life of the assets, are sufficient to cover efficient operating costs and a normal return on, and recovery of, capital invested*.

In the next section we outline how this guidance should be approached when applying the overarching FCM objective to the development and implementation of the new regulatory framework.

71 Even if the Commission considers it is not strictly required to have regard to the UFB GPS under section 19A, the Commission should still look to the UFB GPS as evidence of the expectations that investors had on entry into the UFB initiative. The expectations of investors at the outset of the UFB initiative are relevant to the question of what risks they expected to be compensated for, and for which the BBM must therefore provide compensation to achieve the purpose statement.

[9] The Government Policy Statement is available at https://www.dia.govt.nz//Pubforms.nsf/NZGZT/NZGazette155Oct11.pdf/$file/NZGazette155Oct11.pdf#page=96

FFLAS definition

72 The EV Paper does not discuss the scope of the definition of FFLAS. This is appropriate pending the making of regulations under section 226 describing the services subject to information disclosure (**ID**) and PQR.[10]

73 If the regulations take a broad approach to describing the services to be regulated, as indicated by the draft regulations issued for consultation, the Commission may have a role in determining how the FFLAS definition applies or does not apply to particular services. This will affect the scope of the services to be regulated.

74 The scope of the FFLAS definition can be usefully thought about as interconnection with a specified part of our fibre network (the relevant handover point, which is located at a specified point of interconnection (**specified POI**), which provides a connection over fibre media to an end-users' premises, building or other access point.

75 The following diagram illustrates the key features of the relevant definitions:

76 It will therefore be important for the Commission to keep in mind where the specified POIs are because services are not regulated beyond those points. The Commission is not regulating a particular part of our network – it is regulating particular fibre access services. Given this relationship between the determination of the specified POIs and the scope of FFLAS, it's appropriate for the Commission to consider developing its views on the scope of FFLAS in conjunction with determining the specified POIs under section 231.

77 It's also important that the specified POIs reflect the differing handovers for our layer 1 and layer 2 services, as recognised in our UFB agreements:

77.1 Layer 1 services handover at the local exchange, where the access service ends. If the RSP doesn't have equipment at that local exchange, they purchase backhaul to connect to equipment in another exchange.

77.2 Layer 2 services handover at the layer 2 POI. A POI is always in an exchange, but an exchange doesn't always have a POI.

78 We disagree that backhaul services, like ICABS for layer 1 services, are included under the FFLAS definition as they are beyond the layer 1 POIs outlined above.

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[10] Ministry of Business, Innovation & Employment (6 June 2019), *Exposure draft of regulations to be made under section 226 of the Telecommunications Act 2001*, at [12-13].

KEY ECONOMIC PRINCIPLES

Proposed economic principles

We support the Commission adopting the three key economic principles of real FCM, allocation of risk and the asymmetric consequences of over and under investment to guide the design of the IMs. We also agree that no further economic principles are required in relation to competition or pricing. Our reasoning in relation to the latter point differs from that of the Commission's experts but we arrive at the same conclusion.

In applying these principles, it's important to recognise the features of FFLAS which differentiate it from services regulated under Part 4. IM decision-making when applying these principles cannot be made in isolation from the full set of regulations we face over the economic lifetime of our investments (including pricing and access rules, depreciation and revenue constraints).

A rigid BBM approach could be inconsistent with the outcomes to be found in comparable WCMs if it doesn't take into account the different profile of lifecycle pricing in our industry. This is because traditional utilities regulation tends to treat assessments for the next pricing period as a distinct and separate exercise.

A better approach is to profile allowed revenues consistently with the overarching FCM objective (i.e. real FCM over successive RPs).

The starting point for this assessment should be the time when the investment was made. This aligns with the commitments in the UFB GPS and also with the fact that in comparable WCMs initial investment decisions are influenced by forward expectations of the lifecycle pattern of pricing.

To achieve the IMs' purpose and provide certainty about how the powers in section 166(2) will be exercised, it is important that we, and other stakeholders, have ex-ante confidence that this will be the way real FCM is applied.

We accept that the Commission will need to exercise judgement about how real FCM over the lifetime of an investment should be addressed. This is why we have suggested a flexible regulatory toolbox is available to address the risks identified by the Commission and its advisers and our experts.

We address this issue further in the section *Topic 3b: Type II Asymmetric Risk* where we observe the options that best match comparable WCMs are flexibility in product pricing and the depreciation profile.

Purpose of economic principles

79 We support the Commission's proposal to adopt the following three key economic principles in the FFLAS regime:

79.1 Real FCM;

79.2 Allocation of risk; and

79.3 Asymmetric consequences of over and under investment.

80 We agree these economic principles should be tools that allow the Commission to reach regulatory decisions that promote the purpose in section 162 and, to the extent the Commission considers it relevant, the objective in section 166(2)(b).

Context for application of principles

81 Professor Yarrow makes the point that services are typically priced differently over time, where early adopters make a higher contribution to sunk cost recovery. But in the case of FFLAS, early adopters in fact make a lower contribution to sunk cost recovery than those who consume the service later on. Customers typically migrate on to the fibre network on entry level products, and migrate to higher value services over time.

82 The second point about the context in which these economic principles apply relates to the prospect of competition from rival networks. Professor Yarrow observes in his report that the BBM was established for contexts where the regulated suppliers were expected to have market power over several pricing periods.

83 In this environment periodic resets can be used to correct any errors in preceding periods. However our regulatory framework includes the possibility that mistakes cannot be corrected as the evolutionary process might have moved on and no easy reversal mechanisms may be available.

84 The third contextual feature that must be taken into account, is that these economic principles need to be applied in a particular regulatory context.

85 Professor Yarrow notes incremental changes in legislation cannot properly be assessed in isolation – the effects that any set of rules and regulations will have on market conduct and performance are generally non-separable.

86 When applying these economic principles, it's important that the Commission considers how the full set of regulatory constraints we are likely to face over the economic lifetime of our investments, including anchor services, geographically consistent pricing, the business line restrictions and our Fibre Deed obligations, might impact on our ability to achieve the overarching FCM objective.

87 This includes the impact the regulatory constraints have on our ability to discover information that facilitates capital recovery over the lifetime of our investments.

Need for certainty

88 Given the complexity of this contextual framework, we understand that the Commission's preference is to address these issues over time.

89 However, balanced against this, the Commission also needs to consider the purpose of IMs and to provide ongoing incentives for investment and the discovery of information, which leads to innovation and the sharing of efficiency gains.

90 The risk of the 'decide and explain as we go' approach is that regulated suppliers will simply not have enough certainty to continue to make the required future

investments, innovations and efficiency improvements. The point of an ex-ante commitment regarding the treatment of identified risks is that it incentivises efficient behaviour by the regulated supplier. Hence the Commission's reluctance to adopt ex-post adjustments. A 'decide as we go' approach is effectively an ex-post mechanism that has no incentive value.

91 Regulatory certainty also has flow on benefits to consumers, RSPs and investors through lower cost of capital and the avoidance of inefficient entry.

92 For this reason it's important to be upfront in the IMs that the overarching objective in applying these principles is to ensure that at the point of any deregulation of FFLAS, Chorus will in fact have been afforded the opportunity to have received a return on and of its capital since 2011. We have defined this concept as the overarching FCM objective.

93 This aligns, as Professor Yarrow notes in his advice, with recognition of the need for a 'whole lifecycle' perspective to ensure revenues, **over the life of the assets**, are sufficient to cover efficient operating costs and a normal return on, and recovery of, capital invested [*his emphasis*] in the UFB GPS.[11]

94 The available tools to ensure that the overarching FCM objective is achieved over the asset life include:

94.1 The ability to change the depreciation profile and pricing flexibility;

94.2 The Supplementary Margin (i.e. a cost of capital uplift);

94.3 An accumulation of a fund (held in an escrow account) to provide ex-post compensation for RAB stranding; and

94.4 The ability to retain assets in the RAB for a period of time post deregulation.

95 Judgement is required and we acknowledge there is no single perfect solution. However, this does not mean that no solution should be offered. As Professor Yarrow has said "*if there are sound reasons for expecting that headroom will be positive, to argue for a zero determination on the ground that there is no sound basis for landing on a specific number implies substituting a certain error for a probabilistic error*."[12]

96 Our view is that a combination of these measures will be required. We address this issue further in the section *Topic 3b: Type II Asymmetric Risk*. However we note here that the ability to apply a non-standard depreciation profile to manage revenue over time and give Chorus more flexibility on the pricing would best approximate comparable WCM outcomes.

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[11] Professor George Yarrow (16 July 2019), *Questions relating to the regulation of fibre fixed line access services (FFLAS) in New Zealand*, p 22-23.

[12] Professor George Yarrow (16 July 2019), *Questions relating to the regulation of fibre fixed line access services (FFLAS) in New Zealand*, p 20-21.

No need for additional economic principles

97 We do not think there is any need for additional economic principles to be introduced.

98 We agree with the Commission that the various competition principles proposed by submitters to date do not add anything to the purpose set out in section 162.

99 We consider a pricing efficiency principle creates a risk of exacerbating the constraints imposed by existing regulation on our ability to receive a return on and of our capital over the life of the assets.

Feedback on the Commission's experts views on pricing paper

100 The Commission has invited feedback on the expert paper by Ingo Vogelsang and Martin Cave[13] (**Pricing Paper**).

101 Although we agree with the Commission's conclusion, our views on the pricing incentives we face in the regime differ from the analysis put forward in the Pricing Paper. This is because those views do not adequately take into account either the need to consider the lifecycle issues or the practical effect of the existing restrictions on our pricing.

102 We refer to Professor Yarrow's report.

[13] Ingo Vogelsang and Martin Cave (16 May 2019), *Pricing under the new regulatory framework provided by Part 6 of the Telecommunications Act*.

TRANSITIONAL ARRANGEMENTS

We agree with the Commission that transitional arrangements in RP1 need to be considered, given Chorus is moving to a significantly different regulatory model, in a period of transition from copper to fibre, and moving from network build to network operation mode. Transitional arrangements are necessary for:

- **Quality** – The IMs should allow for a transitional process for RP1 for setting of quality measures and standards. Transpower's transition to its first RP is a useful benchmark. Quality targets should not be linked to revenue and quality regulation, but should focus on targets rather than strict standards.
- **Expenditure** – A modified approach is also appropriate for some expenditure process and evaluation requirements given the challenging timeframes to implement a new regulatory regime. The approach should include:
  - Early visibility and an agreed way forward of likely requirements for the price-quality proposal;
  - Tailored and voluntary independent verification (**IV**) of the price-quality proposal that is agreed with the Commission;
  - Modified Commission consultation with stakeholders on our price-quality proposals;
  - Deferring an obligation for Chorus to engage with consumers in developing the price-quality proposal in RP1, and instead we do so for RP2; and
  - Consideration of how incentive mechanisms can be progressively implemented.

104 We agree with the Commission that it's important to consider using transitional arrangements for RP1. We also agree that transitional arrangements are beneficial where Chorus will need significant lead time to adhere to the new requirements – such as the expenditure forecasting requirements.

105 There is precedent for transitional arrangements under Part 4 for other regulated industries for expenditure and quality requirements in the IMs.

Transitional arrangements for quality

106 We support the Commission's view that it should consider transitional arrangements for quality dimensions for RP1.[14] However, the Commission has mischaracterised our proposal for transitional arrangements in the EV Paper. The Commission said:[15]

> *Chorus suggested not setting targets for quality regulation (as part of the price-quality path) for the first regulatory period as a potential transitional arrangement.*

107 This is an apparent misunderstanding of our proposal. The price-quality path for RP1 should absolutely set targets for measures of quality. The reference to our submission in the footnote is to a paragraph which reads:

> *Using reporting requirements in the first regulatory period (RP1) rather than strict quality compliance thresholds would also support a pragmatic and appropriate approach to implementation. In the meantime there are a number of regulatory mechanisms to ensure that consumer quality isn't adversely impacted.*

108 Our proposal is in relation to the consequences of under or over achieving targets. We don't suggest no targets be set. Our proposal was, and continues to be, that the IMs should allow for a transitional process for RP1 for setting quality measures and standards because:

108.1 It will be important to have a smooth transition to the new framework. There is a clear intention that quality remains stable for RP1. This also means that no consultation on quality standards is necessary or appropriate prior to RP1, which the Commission appears to have acknowledged;[16]

108.2 Rollout of UFB2/2+ tends to be in areas further from where technicians are typically based. In addition, the requirement to unbundle the PON fibre network will result in more 'hands in the network'. This means performance against quality measures to date doesn't necessarily provide a reliable baseline for appropriate quality standards moving forward.

109 The IM should allow the initial measures/standards to be set very quickly to ensure the framework is ready by the statutory deadline.

110 Transpower's transition to its first regulatory control period (**RCP**) is a useful benchmark. We suggest adopting a similar approach for Chorus. In particular, for RP1:

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[14] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [688].

[15] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [687].

[16] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [688].

110.1 Quality targets should not be linked to revenue. In Transpower's first RCP none of the four (service performance) quality targets were linked to revenue. Instead, Transpower was obliged to report against the targets (which had associated caps and collars) so that the Commission could assess what the impact would have been if there had been any revenue reward or penalty linked to them.

110.2 Quality regulation should focus on targets rather than strict standards. In its first RCP Transpower had quality targets that were not themselves 'quality standards'. The quality standards (which the Commission is required to set) were limited to requirements for Transpower to report against the relevant quality measures. As long as the reporting requirements were fulfilled, any failure to achieve a quality target was not significant from a compliance perspective.

Transitional arrangements for expenditure

111 A modified approach is also appropriate for some expenditure process and evaluation requirements during the implementation of the new fibre regulatory framework. Providing for a modified approach recognises that there is a need to facilitate timely implementation and that:

111.1 We and other stakeholders (including the Commission) are in the early stages of understanding the new fibre network and regulatory regime, and what consumer demand and changing expenditure profile will look like in the medium to long-term;

111.2 To undertake all of the process steps that will ultimately be required for PQR in the time available will be challenging; and

111.3 The Part 4 regulated businesses all went through several transitional mechanisms on their way to an enduring BBM regime.

112 Transitional arrangements should include:

112.1 Early visibility and an agreed way forward of likely requirements for the price-quality proposal;

112.2 Tailoring voluntary IV of our price-quality proposal, that is agreed with the Commission (similar to the Transpower pilot with the Commission);

112.3 Considering whether the scope of the Commission's consultation during the evaluation of our proposal should be modified for RP1;

112.4 Deferring any obligation for us to engage with consumers in developing our price-quality proposal until RP2; and

112.5 Considering how incentive mechanisms can be progressively implemented (*refer to section Topic 5: Expenditure*).

Price-quality proposal information requirements

113 We'd like the Commission to use its discretionary power to allow a price-quality proposal for RP1 to have less granular requirements, with a fuller proposal for RP2 to line up with our increasing asset management maturity. The challenge for us is to produce a detailed proposal for RP1 in a short time period, including where there are also uncertainties with a new fibre network and implementing a new regulatory regime. So early visibility of the likely information requirements is important for us. In addition, there are challenges establishing the basics of regulatory accounting and proposal governance, which isn't already in place.

Engagement, consultation and independent verification of price-quality proposal

114 We support targeted IV, modified consultation on our price-quality proposal and our preference is to defer any obligation for us to engage with consumers on the development of our price-quality proposal for RP2. This is due to the timing challenge for developing a price-quality proposal.

115 As discussed in section *Topic 5: Expenditure*, we support IV requirements in the enduring IMs. However for RP1 there needs to be allowance for the short timeframes to develop the price-quality proposal and conduct IV while IMs are being set. So for RP1 we support voluntarily engaging an independent verifier of our proposal and submitting the IV report with it to the Commission. We want this voluntary IV process, including the terms of reference (**TOR**), to be agreed with the Commission – in a similar way to Transpower's verification pilot with its RCP3 proposal. And we understand that the Commission would use the IV report in its evaluation and potential consultation on our price-quality proposal for RP1.

116 We also consider that a tailored IV proposal (verifying a material subset and range of our capex programmes) is appropriate for RP1 given the timing challenges and resource impacts of servicing a full IV.

117 We suggest that the scope of the Commission's stakeholder consultation during the evaluation of our proposal may need to be modified for RP1. The scope may need to be modified to reflect the tailored approach taken to the IV, the materiality and risk level with the expenditure being assessed and the challenging timeframes for assessment of the price-quality proposal before the implementation date.

118 We recommend no consumer engagement for RP1. We would instead have time to develop our plan for meaningful engagement with consumers prior to RP2. It will be more appropriate to work on this engagement where there is space to explore options that tie together quality measures and their relationship with expenditure for RP2.

APPENDIX A

TOPIC 1A: ASSET VALUATION – EXCLUDING FINANCIAL LOSS ASSET

- We agree with most of the Commission's emerging views on asset valuation and future capital additions.
- A principles-based regime for asset valuation, with more general 'rules', similar to the Part 4 regime is appropriate for fibre regulation.
- We have previously expressed our preference (on behalf of investors) for the earliest possible determination of the initial RAB. This is also essential to give us the certainty we need to submit a price-quality proposal and for our investors to have sufficient confidence to invest in an efficient expenditure programme.
- We support a supplier-led approach for establishing the initial RAB.
- The initial value of an asset is to be determined based on the cost of that asset, net of specified capital contributions. This includes no ex-post efficiency test. There should also be no revaluation once an asset enters the RAB.
- A flexible approach to asset granularity allows regulated suppliers, who are in the best position, to determine the level of RAB disaggregation.
- We support the Commission's proposal to adopt a RAB roll-forward calculation similar to the one applied under Part 4. In particular we highlight the following points:
  - **RAB indexation** – We support the Commission's proposal to apply RAB indexation to FFLAS, consistent with the approach taken in Part 4.
  - **Depreciation** – The profile of allowed depreciation should match the profiles of comparable WCM. The Commission should recognise that there may be reasons to allow departures from straight-line depreciation in certain circumstances. An example of this is the IMs approach applied to airports.
  - **Wash-up** – Our interpretation of the Act is that a symmetric, unconstrained wash-up is to be applied to FFLAS for RP1. We ask for confirmation that this interpretation aligns with the Commission's view.

Introduction

1 The legislation sets out asset valuation methodologies for pre- and post-implementation. The RAB is a key component of the BBM. There are two steps in this process:

1.1 Setting the initial RAB, which includes financial losses and the relevant Crown financing; and

1.2 The roll-forward of the initial RAB to the implementation date.

2 It's important the initial RAB is set shortly after the IMs have been finalised. The initial RAB is key to investor certainty. We will also need it to prepare our price-quality proposal for the Commission, which will also be due shortly after the IMs are completed.

3 We understand that the initial RAB will be updated as part of the PQR process.

Valuing the initial RAB

The process to determine the initial RAB value

4 Chorus supports a supplier-led process for establishing the initial RAB. We understand that the initial RAB (e.g. base valuation at August 2020) can be updated to form a final RAB value as part of PQR closer to the implementation date. As indicated by the Commission in its EV Paper, we expect to work with the Commission on this process. We agree with the Commission that the asset valuation IMs do not need to detail the practical process for gathering data for establishing the initial RAB.

5 It is critically important to Chorus that an initial RAB value is set as early as possible. To submit a price-quality proposal for RP1 it is prudent for a regulated supplier to have a view on the value of its regulated assets. Our Board needs clarity on the value of Chorus' regulated assets before it can certify proposed expenditure on FFLAS assets. Any uncertainty about the value could affect business plans for FFLAS expenditure. We also need to know the value of assets with some confidence to secure capital from investors to fund an efficient expenditure programme. Chorus and investor confidence will be promoted by the Commission publishing the initial value.

6 The Commission has stated that the asset valuation IM will not contain a 'dollar value' for determining the initial RAB. Given this view, it's important that a base 'dollar value' for the initial RAB is set by the Commission in a PQD as soon as possible after the final IMs are set. Our view is that the Commission is required to determine a value for the initial RAB as early as possible because the BBM cannot be facilitated without the Commission determining the RAB well ahead of setting the MAR.

7 A number of key parameters need to be addressed in the Act, IMs or a price-quality determination (**PQD**) for the Commission to determine the initial RAB (i.e. base valuation). We set out below what we understand to be the key parameters to be addressed before a base valuation can be determined:[17]

Initial value of fibre assets:

7.1 **Valuation** – Section 177(1) sets out the methodology for valuing pre- and post-2011 assets;

[17] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [63].

7.2 **Depreciation** – Section 177(1) of the Act specifies straight-line depreciation; and

7.3 **Backward-looking cost allocation** – The cost allocation IM will need to confirm principles to guide cost allocation for expenditure incurred, and assets commissioned, before the implementation date.

UFB financial losses:

7.4 **Financial losses** – The asset valuation IM will need to determine a BBM approach;

7.5 **Crown financing** – The asset valuation IM will need to specify the method for determining the actual cost of this; and

7.6 **Rate of Return on Investment (RROI) for financial losses**[18] – This is a one off exercise that will need to be determined by the cost of capital IM.

Determining the initial RAB value (excluding past financial losses)

8 We agree with the Commission that Chorus' pre-implementation costs should not be subject to an ex-post efficiency review.

9 As we stated in our submission on the Process and Issues Paper:[19]

9.1 Such a review would be inconsistent with the policy intent and direction set out in the legislation;

9.2 Chorus faces powerful efficiency incentives as a publicly listed company delivering a fixed price contract under the UFB Initiatives; and

9.3 Chorus has been, and remains subject to, oversight by CIP throughout the build process.

10 We also support the Commission's view that cost allocation rules are required to establish the initial RAB and that approach should align with the proposed approach to future cost allocation decisions post-implementation. That approach means suppliers must apply accounting-based allocation approach (**ABAA**) to assets that are shared between FFLAS and non-FFLAS.

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[18] The RROI is for the period 2011 to the 2022 implementation date (for determining UFB financial losses) and it is a separate exercises to the determination of the cost of capital for RP1. Refer to Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [63].

[19] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [20].

Asset granularity in the RAB

11 We agree with the Commission that a highly prescriptive approach to asset granularity is impractical and would likely become unworkable given the dynamic nature of the FFLAS market. We therefore support a flexible approach to asset granularity.

12 As we set out in our response to the Commission's Process and Issues Paper,[20] the level of granularity in the RAB should reflect a balance between needing to understand our assets and the asset lives attached to them, and a level of practicality to ensure the process is workable.

13 With that in mind, we support specifying some minimum level of granularity designed to meet *current* needs where the purpose is clear, e.g. a split of assets by general type (ONT, cabinet, fibre cable) and grounded in the data that is practically available from our accounts and supporting systems.

14 However we disagree with the principle of specifying a minimum level of granularity to meet *future* needs. Where those needs haven't yet been defined, there's a risk of driving significant cost to our financial systems and reporting processes to produce information that is not fit for purpose for a future exercise, which will ultimately come at a cost to consumers.

15 This also seems at odds with the flexibility given in the cost allocation approach, where suppliers are free to choose the level of asset group, services or operating expenses categories to which cost allocation should be applied.

16 We agree with the Commission's position that disaggregation should be decided once further information is available on the elements of the proposed RAB to ensure the approach is workable.[21]

Composition of the RAB

17 We agree that Chorus is best placed to determine which assets go to support the regulated services in scope of FFLAS.

18 We also agree that assets should be eligible to be included in the RAB if they are "*constructed or acquired by a regulated supplier; and in the year in which they are first employed (i.e. 'commissioned') wholly or partly, in the provision of regulated FFLAS*".[22]

19 The definition of 'commissioning' should be consistent with accounting treatment, as is standard practice in Part 4. Chorus' audited financial statements are prepared in accordance with GAAP principles and the New Zealand equivalent to International

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[20] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [163].

[21] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, Appendix C, at [3].

[22] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper,* at [147.7].

Financial Reporting Standards (**IFRS**). This means that assets should be eligible for inclusion in the RAB when that asset has been recognised in our accounts, and available to be provisioned.

20 In practice, for UFB related assets, costs are measured and held in 'capital work in progress' until the asset is ready for service, at which point the asset is recognised in our books:

20.1 For UFB communal build, assets are recognised when service company costs are received and consumers are able to connect to the services;

20.2 For UFB connection activity, asset recognition occurs when the service lead-in is in place and ready for service and final build costs received;

20.3 For layer 2 network electronics, recognition occurs when the asset is ready for service and final costs have been received; and

20.4 For IT assets, recognition takes place upon delivery of the completed IT solution (be it a new system/platform, or an enhancement to an existing one), and is ready for service.

21 For accounting purposes, we have adopted a definition for capital contributions that's consistent with accounting standards. We don't foresee any issues with treating items defined as a capital contributions in a manner consistent with those accounting standards – i.e. the contribution is treated as a credit against the asset value. This would be a pragmatic approach which would avoid the need to 'tinker' with values in our accounts for regulatory purposes, and which would facilitate reconciliation back to those accounts.

22 One area that could warrant a departure from GAAP treatment is RSP incentive payments. We note that airports treat similar payments as an expense in the Part 4 regime.

Core valuation rules for initial RAB assets

23 As set out above, we agree with the Commission that Chorus' pre-implementation costs should not be subject to an ex-post efficiency review. We also agree that the value of an asset should not be revised once it enters the RAB. This rule should apply to both assets included in the initial RAB and those added after the implementation date. That's because:

23.1 It's consistent with precedent and in line with the stable utility model based on Chorus' actual costs that was the clear policy choice;

23.2 It provides certainty and predictability for Chorus, our consumers and investors, significantly reducing the scope for any future price shocks that are likely to be associated with an asset revaluation; and

23.3 Revaluing assets (e.g. optimisation at a future point in the regime where demand has been lost to emerging competitors) is likely to introduce an additional asymmetry into the regime for which compensation would be needed.

24 We support the Commission's proposal to ignore previous revaluations of assets. None of Chorus' assets have been revalued since demerger.

Core valuation rules for fibre assets added after implementation date

25 The Commission's view is that assets repurposed for fibre use should be added into the RAB at 'carrying value' (i.e. cost less capital contributions less accumulated straight-line depreciation). We understand that this would apply to existing assets currently categorised as 'copper dedicated' which would be repurposed to become a 'shared' or 'FFLAS dedicated' asset in the future. For those assets, we think a better approach would be to have the assets depreciated at an inflation index for the purposes of RAB valuation.

Roll-forward mechanism

- We support an annual RAB roll-forward calculation similar to the Part 4 regime.
- We recommend a non-standard depreciation that more closely approximates outcomes in comparable WCMs.
- We support the Commission's proposal for the financial loss asset to be amortised over a period equivalent to the weighted average life of the main RAB.
- Indexation of the total RAB, using CPI as part of the RAB roll-forward process.

26 We agree with the high level form of the roll-forward mechanism outlined by the Commission at paragraph 218 of the EV Paper.

Wash-up account

27 We note that the legislation requires the application of a symmetric wash-up account for RP1. Our interpretation is that the wash-up account should be unconstrained (i.e. no caps and collars applied etc.) and it washes up all variations between allowed and actual revenue. We ask the Commission to confirm that this interpretation aligns with its view.

28 This interpretation broadens the purpose of the wash-up account beyond its standard application in Part 4 (i.e. managing forecasting risk within periods) to align with the policy recognition that Chorus has invested ahead of demand (i.e. allowing Chorus to wash-up the difference between our maximum allowable revenue (**MAR**) and actual revenues for recovery in future periods).

29 We believe that there is a rationale for a symmetric wash-up to continue to apply into future RPs, however the focus may revert to managing forecasting risk rather than the broader application intended for the RP1. This would reflect the difficulty of forecasting revenue for a new and complex activity like FFLAS while allowing new information to be naturally incorporated into BBM prices for the next RP. This difficulty relates to a combination of:

29.1 Challenges in forecasting what FFLAS consumers might choose; and

29.2 Challenges in forecasting product price relativities and their impact on customer choice.

30 A symmetric wash-up would insulate both Chorus and customers from windfall gains or losses from these forecasting challenges, both of which are likely to continue beyond the first regulatory period (**RP1**).

Depreciation

31 Depreciation is a tool that can be used to more closely align the revenue of regulated suppliers with the life of their assets.

32 A WCM for FFLAS requires the application economic depreciation to achieve a different profile for revenues than a traditional application of the BBM (i.e. with straight line depreciation) might suggest.

33 One of Professor Yarrow's solutions to this problem is to change the profile of allowed depreciation to be more consistent with the specific market context, noting that there will be opportunities for adjustment at later reviews (guided by facts that would be available then) and the pre-commitment to the overarching FCM objective.

34 We support the inclusion of a more flexible depreciation approach. An example of this is the airports style depreciation approach. This approach could flex between RPs depending on circumstances, while ensuring NPV = 0 overall. For example, depreciation could be decelerated as migration continues, and accelerated where appropriate to respond to stranding asset risk.

Asset lives

35 We support the use of GAAP compliant asset lives. The Commission puts forward the adjustment of asset lives (i.e. shortening or lengthening) as an option for smoothing revenues. Our views on that proposal are captured in the *Key Economic Principles* section.

36 A balance needs to be struck between revenue smoothing to ease price shocks and the need for cost recovery in the face of any emerging competition.

RAB indexation

37 We support RAB indexation, and agree with the position adopted by the Commission in the Part 4 IM review process that RAB indexation is aligned with achieving real FCM in a BBM framework. In our view, although the current inflation environment is reasonably benign, the IMs are intended as an enduring rulebook. Inflation risk can be significant for investors in long lived assets and that risk is better managed by consumers.

38 We recognise the impact that RAB indexation has on the time profile of cost recovery, however, issues of recovery profile can be managed through the option of applying a non-standard depreciation method (as described above) which can be structured to align cost recovery to demand trends.

TOPIC 1B: ASSET VALUATION – FINANCIAL LOSS ASSET

Valuing initial financial loss asset

- We support the Commission's decision to use a BBM approach to valuing this asset and the Commission's proposal for the asset to be amortised over a period equivalent to the weighted average life of the assets included in the main RAB.

RROI for financial losses

- The asset beta used to estimate the cost of capital for the financial loss asset must reflect the particular circumstances of the pre-implementation period. Oxera concludes that the asset beta should be higher due to higher demand risk, operational leverage and longer term cash flow risk in the pre-implementation period.
- The term of the risk-free rate applicable to the calculation of financial losses should match the relevant period for which the fibre prices have been set – from December 2011 to the implementation date.
- If the Commission's underlying concern is the avoidance of windfall gains and losses in the pre-implementation period, then this would best be achieved by determining the cost of debt based on Chorus' actual cost of debt. The usual concerns that might arise about the use of actual cost of debt don't apply in the pre-implementation period. Ex-ante incentives to manage financing costs and investment decisions efficiently is not relevant as the costs associated with providing FFLAS have already been incurred.
- We agree in principle with the Commission's proposed use of a trailing average approach to estimating the debt premium. We note though that there are technical reasons why a trailing average debt premium approach would require adjustment for use in the pre-implementation period.

Crown financing

- Crown financing is not costless to Chorus. The legislation directs the Commission to take into account the actual financing cost of the CIP instruments. This means the adjustment made to Chorus' required revenues for concessionary financing should reflect the economic benefit to Chorus from the Crown financing.
- The benefit to Chorus is the avoided cost of alternative financing. However, the cost of different sources of financing depends on the precise terms of the financing, and importantly, on the risk that the funding provider is accepting. The benefit to Chorus from the Crown financing depends on the nature of that funding and the extent of risk the Crown bore implicitly in the financing terms.
- We asked Incenta to calculate the actual financing cost that Chorus incurs in relation to investments funded through Crown financing. Incenta's overall findings show **on average from 2012 to 2018 the average actual cost of Crown funding securities has been between 1.81% and 1.85% per annum** during the pre-implementation period.

Setting of the initial tax asset values

- We generally support the Commission's proposed approach. However the tax asset base (**TAB**) should be calculated from 2011 and the Commission should confirm post-implementation tax effects.
- Tax losses should be carried forward until there is sufficient taxable income.

Cost allocation

- We agree with the Commission that cost allocation rules are required to establish the initial RAB. That approach means suppliers must apply ABAA to assets shared between FFLAS and non-FFLAS.

39 We agree with the Commission that the financial loss asset should be calculated using a BBM approach. The policy intent was that Chorus should have an expectation of real FCM on our UFB investment. Applying a BBM approach is the only calculation methodology that would be consistent with that direction.

RROI for financial losses calculation

40 We agree with the Commission that one of the key differences in developing the Part 6 IMs, compared with the Part 4 IMs, is the requirement to compensate regulated suppliers for accumulated financial losses prior to the implementation date.

Systematic risk during the loss period

41 We don't agree with the proposal to apply the same asset beta when determining cost of capital in both the pre- and post-implementation periods. The proposal in the EV Paper appears inconsistent with Dr Lally's view that the systematic risks faced by a supplier in the pre-regulatory period differ from those faced following implementation of regulation. The proposal appears to be based on a view that it is simply too difficult to estimate the systematic risk for the pre-implementation period precisely.

42 We asked Oxera to provide advice on whether the Commission should use the same asset beta for pre- and post-implementation period. Oxera concluded that the high operating leverage, high demand risk and the longer term cash flows in the construction and early growth phase, indicate that the asset beta for FFLAS in the pre-implementation period should be higher than the asset beta in the post-implementation period.[23]

43 Oxera observed that:[24]

43.1 FFLAS is exposed to substantially higher risk than copper access services due to the significant demand risk, operational leverage and longer term cash flows.

[23] Oxera (15 July 2019), *Compensating for systematic risks*, section 3E.4.

[24] Oxera (15 July 2019), *Compensating for systematic risks*, sections 1 and 3E.

This risk is highest during the construction and early growth phase of the project and decreases as the network matures, implying a higher fibre asset beta in the early phases of the investment.

43.2 In the pre-implementation period, the demand risk is high due to the uncertainty in demand and the competitive threat from copper. An economic slowdown is likely to slow the uptake of fibre as consumers reduce spending and become hesitant in switching from the lower cost, lower value copper network to the relatively greater value, higher cost fibre network.

43.3 In the construction and early growth phase, fibre is being rolled out and the uptake of fibre is increasing. In this phase, fibre has high fixed costs relative to total costs, i.e. it has higher operating leverage. All else being equal, assets with a higher operational leverage face greater systematic risk than assets with a lower operational leverage. As a network matures, operational leverage decreases and asset beta decreases (i.e. systematic risk decreases). Therefore, the asset beta for fibre would be the highest during the projects' construction and growth phase, decreasing over time as the network matures and take-up of fibre increases. Crucially, the average asset beta over the life of the asset is higher than it would be post-construction phase.

43.4 In the pre-implementation period, the useful lives of the assets will be longer and therefore the uncertainty around cash flows will be higher.

43.5 Regulatory evidence suggests the asset beta for fibre would be higher in the construction phase compared to the operational phase and would decrease over time. A decline in asset beta for fibre over time is evident from Ofcom's determinations, which used a 0.83 asset beta for fibre in 2014,[25] compared to a 0.65 asset beta in 2018.[26]

43.6 To estimate the asset beta of FFLAS in 2011, one simple approach would be to assume a linear extrapolation of the asset beta estimates at different points in time. For example, using the Ofcom fibre asset betas in the 2018 and 2014 decisions gives an extrapolated asset beta of approximately 0.95 in 2011.

Term of the risk-free rate for the loss calculation

44 We disagree with the view in the EV Paper that a risk-free rate based on a rolling average approach is appropriate for the calculation of financial losses over the pre-implementation period. This proposal is inconsistent with the Commission's established approach, and stated rationale, to setting the risk-free rate. No clear or

[25] Ofcom (26 June 2014), *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lin*es, ISDN2 and ISDN30 – Annexes, Table A14.1 and at [A14.262].

[26] Ofcom (2 November 2018), *Business connectivity market review*, p 206, Table A21.1.

compelling reasons have been provided to depart from the Commission's own established approach (as endorsed by its advisor Dr Lally).

45 The best way to determine the term of the risk-free rate to calculate the financial losses is to match the relevant period for which the fibre prices have been set – from December 2011 to the implementation date. The Commission would estimate the pre-implementation risk-free rate using the methodology it applies under Part 4 by:

45.1 Using 10-year New Zealand Government bonds as proxy;

45.2 Using prevailing rates immediately prior to 1 December 2011; and

45.3 Calculating the three-month average ('determination window').

46 Using a term equal to the duration of the RP is the Commission's standard approach to estimating the risk-free rate. This approach was explicitly endorsed by its advisor Dr Lally.[27] The Commission has applied this orthodox approach to all regulated services, including electricity network services, gas pipelines services, specified airport services and copper fixed-line services.[28]

47 As Houston Kemp explains,[29] the rationale for this approach focusing on the RP is summarised in the Commission's draft cost of capital guidelines as ensuring that "*the interest rate applied to a set of cash flows should reflect the risk, and the term, of those cash flows*."[30] That is, the risk-free rate that a hypothetical investor would seek is tied to the timeframe over which that investor would receive their return. Even a return that is risk-free will be affected by its term.

48 For the financial losses calculation, the term of those cash flows is the price-setting period under the UFB contract agreed between Chorus and the Crown. The UFB price caps were determined by the UFB contract, from 1 December 2011 to 31 December 2019. These price caps have now been carried over under the Act, from 1 December 2019 to the close of the day immediately before the new implementation date.[31] This period offered the same long-term certainty, and ability for Chorus to use interest rate swaps to mitigate the risk of anomalous market conditions, as a standard RP.

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[27] Dr Martin Lally (30 April 2019), *The cost of capital for fibre network losses*, p 6.

[28] Commerce Commission (15 December 2015), *Input methodologies (electricity distribution and gas pipeline services): reasons paper,* December 2010; and Commerce Commission, *Cost of capital for the UCLL and UBA pricing reviews: final decision*.

[29] Houston Kemp (12 July 2019), *Risk free rate, debt premium and TAMRP*, p 10.

[30] Commerce Commission (19 June 2009), *Revised draft guidelines: the Commerce Commission's approach to estimating the cost of capital,* at [144].

[31] Telecommunications Act 2011, Schedule 1AA, Part 2, section 9.

49 It is not relevant that the future regulatory approach was uncertain in 2011. As Houston Kemp explains:[32]

> *…at the commencement of the implementation period, there was a notable degree of certainty as to the arrangements under which FFLAS were to be provided over the period to the implementation date. Although not termed a 'regulatory period, the pre-implementation period therefore had the economic characteristics of a regulatory period.*

50 In 2011, the regulatory rules, including the prices, were fixed for a minimum period between 1 December 2011 and 31 December 2019. As a result of the Commission obtaining a two year delay in the implementation date, these rules were extended to 31 December 2021. In any event, to the extent there was uncertainty about the regulatory regime, that uncertainty was only present in respect of the period from 1 January 2020 – and even in that case, the naturally lengthy process of the legislative and regulatory design process for the Part 6 IMs meant there was some early notice of the nature of the regulatory regime to apply from 1 January 2020.

51 We note that this standard approach is consistent with the Commission's view in the FPP process, where it noted that "*[m]atching the risk-free rate to the length of the regulatory period avoids under-or over-compensating suppliers of regulated services*" on the basis that those suppliers can reset their prices each RP in a way that takes into account changes in the risk-free rate.[33]

52 We also note that Dr Lally has previously advocated using a risk-free rate with a 10 year term in the context of infrastructure assets where there is no apparent regulatory cycle:[34]

> *If no regulatory cycle is apparent then the risk-free rate should match the life of the project. Since project lives are generally measured in decades, and the longest liquid government bond is ten years, this implies use of the ten year rate*.

53 If the Commission does not consider the above approach is feasible, the next best alternative is to determine the cost of debt used to calculate cost of capital in each year of the pre-implementation period based on the regulated suppliers' actual cost of debt.

54 The Commission's proposal for a risk-free rate based on a rolling average approach appears to be driven by a concern about the potential impact of anomalous market

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[32] Houston Kemp (12 July 2019) *Risk free rate, debt premium and TAMRP*, p 10.

[33] Commerce Commission (15 December 2015), *Cost of capital for the UCLL and UBA pricing reviews*, at [56].

[34] Martin Lally (26 February 2004), *The Cost of Capital for Regulated Entities,* Report prepared for the Queensland Competition Authority, p 65, footnote 53.

conditions that could lead to windfall gains or losses.[35] If the primary objective of the Commission is the avoidance of windfall gains and losses in the pre-implementation period, its proposed approach to estimating the risk free rate, in combination with a benchmark debt premium, will not best promote this achievement.[36]

55 The proposal in the EV Paper is not the most effective way of addressing any potential concerns about windfall risk. As the Commission can directly observe the market conditions prevailing during the pre-implementation period, if it has specific concerns about potentially anomalous market conditions that arose during this period, it could identify and exclude them. This is preferable to taking a generic rolling average approach to solve a problem that it has not established to exist. The better way to manage windfall risk is by setting the cost of debt in the pre-implementation period based on Chorus' actual cost of debt.

56 As Houston Kemp explains, the usual concerns that might arise about the use of actual cost of debt don't apply in the pre-implementation period. This is because:

56.1 These costs have, to a large extent, already been incurred – so this approach does not provide perverse incentives to raise more expensive debt; and

56.2 The investment decisions have already been made – so there is no concern this approach won't promote efficient investment.[37]

57 For clarity, we are not suggesting that this alternative approach apply to the post-implementation period. In the post-implementation period, the similarities with the Part 4 IMs will be more pronounced, and the same compelling reasons to depart from the established approach of tying the risk-free rate to the RP are unlikely to apply.

Debt premium and term credit spread differential

58 The Commission has not expressed a firm view on how to determine the debt premium and TCSD in the pre-implementation period, but notes that this should be "*as consistent as possible with our approach post-implementation*".[38]

59 As discussed above, we agree with the Commission's proposed use of a trailing average approach to estimating the debt premium in the post-implementation period. And we agree, in principle, with the desire for consistency in approach for the pre-implementation period.

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[35] Commerce Commission (21 May 2019) *Fibre regulation emerging views*, at [532].

[36] Houston Kemp (12 July 2019), *Risk free rate, debt premium and TAMRP*, p 14.

[37] Houston Kemp (12 July 2019), *Risk free rate, debt premium and TAMRP*, p 14.

[38] Commerce Commission (21 May 2019), *Fibre regulation emerging views: technical paper*, at [534].

60 However, we note there are technical reasons why a trailing average debt premium approach would require adjustment for use in the pre-implementation period. We refer to Houston Kemp's report for further details.[39]

Crown financing

61 We disagree with the assumption in the EV Paper that Crown financing is costless and a zero return can be assumed for the Crown financed portion of assets. It's possible to demonstrate that the Crown does not face the same degree of project risk as Chorus. If Crown financing is to be treated as costless, our commercial investors will face a residual risk for which they will be uncompensated, putting real FCM at risk. Our investors and investment analysts are live to this issue. The proposal that Crown financing should be treated as costless was one of the key contributing factors to the fall in our share price following publication of the EV Paper (as discussed in the *Summary of our views* section of this submission).

62 Investor concerns with the Commission's proposal can be summarised by New Street Research's response:[40]

> *The Commission… considers that Chorus carries no cost in relation to debt and equity capital provided by Crown financing (i.e. Government) which is patently untrue. Specific costs and obligations mentioned by Chorus are considered to "not seem to be quantifiable and therefore cannot be incorporated". Capital provided by the Crown has priority over that of equity investors, an arrangement which increased risk for all other shareholders.*

63 The legislation directs the Commission to take into account the actual financing cost of the CIP instruments. This means that the adjustment that is made to Chorus' required revenues to reflect the concessionary financing should reflect the economic benefit to Chorus from the Crown financing.

64 The benefit to Chorus from the receipt of the Crown funds comes from the fact it allowed Chorus to avoid obtaining an alternative financing source. So the benefit is the avoided cost. However, the cost of different sources of financing depends on the precise terms of the financing, and importantly, on the risk that the funding provider is accepting. The benefit to Chorus from the Crown financing depends on the nature of that funding and the extent of risk the Crown bore implicitly in the financing terms.

Chorus' actual financing cost for Crown-financed investment

65 We have commissioned Incenta Economic Consulting (**Incenta**) to develop a methodology for calculating the actual financing cost that Chorus incurs in relation to investments funded through Crown financing. In particular, the report[41] focuses on

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[39] Houston Kemp (12 July 2019), *Risk free rate, debt premium and TAMRP*, p 14-15.

[40] New Street Research (21 May 2019), *Chorus Limited – NZCC initial thoughts on UFB RAB,* p 3.

[41] Incenta Economic Consulting (16 July 2019), *Chorus' actual financing cost for Crown-financed investment*.

whether Chorus faces residual risk in relation to the investment financed via these funds. We summarise the report below.

66 For Chorus to bear no financing cost (apart from the value of business restrictions) the Crown would need to have accepted a proportionate share of the project risk for the capital it contributed. However, if the Crown is accepting less than a proportionate share of the project risk, then Chorus investors bears a residual risk in relation to the Crown financed investment. This residual risk can be defined as the difference between the value of the total project risk (i.e. the cost of capital) and the value of the risk absorbed by, and therefore transferred from, Chorus. The risk borne by the Crown depends on the specific characteristics of the Crown financing.

67 Incenta finds that the risk the Crown absorbed is principally debt-like, because Chorus' future obligation in relation to the funds is tied to the original principal, rather than to the future value of the FFLAS activities. It would therefore be expected that Chorus investors bear a residual risk in relation to the Crown financed investments. To determine the value of residual risk to Chorus, Incenta's methodology seeks to estimate the value of the risk absorbed by the Crown. Its proposed method is as follows:[42]

67.1 First, identify the economic nature of the relevant component of Crown funding;

67.2 Second, identify market comparables for sources of finance that most closely resemble that economic nature;

67.3 Third, convert those market comparables into benchmarks that can be applied to the New Zealand context;

67.4 Fourth, apply any available cross-checks to those market comparable estimates (e.g. from bottom-up risk pricing models); and

67.5 Last, apply adjustments, where practicable, for any other components of the funding that may change the value transfer between Chorus and the Crown (this applies to the Crown equities, where there are attached options).

68 Incenta makes two assumptions[43] which allow for estimates to be expressed as the value of the risk borne by the Crown based on a benchmarked differential between the cost of finance that most closely matches the characteristics of Crown financing and the regulatory debt allowance, for a term matching the pricing period (assumed to be 10 years for the pre-implementation period).

[42] Please refer to the attached report for more detail on the methodology, including how to ensure consistency with the method used to estimate the cost of capital.

[43] Assumptions include: (i) risk-free rate matching the pricing period; and (ii) debt risk premium matching the term of the pricing period.

Summary of findings

69 As mentioned above, the risk the Crown bears depends on the specific characteristics of the Crown financing. Given those characteristics of the Crown financing - 'debt' and 'equity' components - Incenta found the most closely comparable funding was as follows:

69.1 **Crown debt securities** – To be a combination of senior debt (BBB) and subordinate debt, the proportion of which varies according to a formula over time. Relative to a 10 year BBB benchmark, the senior debt component would not have a margin over the regulatory benchmark. Literature suggests that the subordinated debt typically is priced at a one-notch discount to senior debt, which would imply a BBB- rating. Incenta's estimate is that "*this implies a 47 basis points margin to the senior (BBB) debt"*.

69.2 **Crown equity securities** – To be long-term junior subordinate debt combined with a call feature. A benchmark for the cost of junior subordinated debt can be derived from data from the US capital market, which Incenta finds to "*deliver a margin over the cost of senior debt of 193 basis points*."

70 Incenta's overall findings show the **average actual cost of Crown funding securities has been between 1.81% and 1.85% per annum** during the pre-implementation period.[44]

Setting of the initial tax asset values

71 We support the Commission's proposed methodology for setting the initial TAB. This approach is consistent with other regulated sectors. However we propose two changes:[45]

71.1 **TAB to be calculated from 2011** – As the BBM is calculated from 1 December 2011 for the purposes of calculating the initial financial loss asset, it seems more appropriate to calculate the TAB from the same date, as opposed to deferring to 2022; and

71.2 **Tax effects post-implementation** – The Commission should confirm how tax effects transactions on assets post-implementation will be treated when setting future revenues, as this is a material omission. We recommend the EDB/GPB approach be applied to FFLAS.

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[44] These results apply for the Crown financing that is referred to as the CIP1 finance. Whilst the same principles could also be applied to the recognition of CIP2 securities, the split between "debt" and "equity" is different for the latter, and so the value of the risk borne by the Crown would also differ.

[45] Incenta Economic Consulting (16 July 2019), *Taxation and the WACC*, section 3.2.

72 The Commission is proposing that when the financial loss asset is calculated, any tax losses created are assumed to have been used immediately to reduce taxation in other parts of Chorus' activities (e.g. copper and unregulated services). We don't support this approach, because:[46]

72.1 It's inconsistent with Part 4, where the Commission assumes tax losses are retained by the regulated supplier and carried forward;

72.2 It has no benefit in advancing economic efficiency; and

72.3 It requires assumptions to be made about the tax status of services out of scope of FFLAS, which is inappropriate.

73 The alternative is to assume any tax losses are carried forward until there is sufficient taxable income.

Cost allocation approach for past financial losses in the initial RAB

74 As the Commission mentions in its EV Paper, Vodafone submitted that "*the outcomes expected in a workably competitive market must be used as guidance to ensure the right outcome is produced*".[47]

75 Taking this example, in a WCM, firms make transitions between technologies (e.g. moving from 3G to 4G) all the time. In addition, if a WCM has sunk costs (as is the case with Chorus), businesses don't scrap existing sunk assets once better technology is developed. Instead they gradually embed the new technology in the existing network when doing so leads to lower expenditure and/or gives rise to quality improvements. The pricing of the new technology would therefore represent the cost of the existing asset that is re-used, plus the incremental cost to transition to the new technology.

76 So it's reasonable to assume that FFLAS consumers should contribute to the recovery of their share of the existing assets that are reused to provide FFLAS. That is, as the consumer transitions from copper to FFLAS they should continue to pay their share of the cost. This ensures the right outcome is achieved, which is consistent with a WCM.

77 We agree with the Commission that, to give effect to the Act, the calculation of the past financial losses must include both capital and operating costs, which includes those that are:

77.1 Directly attributable to UFB – as this represents the costs that are incremental to fibre i.e. the cost to transition to the new technology; and

[46] Incenta Economic Consulting (16 July 2019), *Tax and the WACC*, section 3.2.

[47] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [351].

77.2 Shared costs including pre-2011 and post-2011 assets – as this takes into account the proportion of existing assets that were reused to provide fibre.

78 This ensures that all costs are included, as the IMs cannot preclude shared costs or significant groups of shared costs.

79 The points above highlight that the 'attribution of incremental costs' and 'allocation of shared costs' are two distinct steps in the methodology and should not be confused as one and the same. First, attribution involves determining whether assets and operating costs are:

79.1 Directly attributed to FFLAS (i.e. 100% used by FFLAS);

79.2 Directly attributed to other non-regulated services (e.g. copper); or

79.3 Not directly attributed and therefore 'shared'.

80 The second step is to analyse not directly attributed 'shared' costs and allocate these to either FFLAS or non-FFLAS services using, where possible, a causal allocator.

81 The Commission appears to consider there are two different principles that could be applied to ensure consistency when allocating costs between FFLAS and non-FFLAS for the calculation of past financial losses. These are:

81.1 The original drivers and reasons for the investment – so that changes to the subsequent use of the asset would be ignored; and

81.2 The way in which the assets are used at any point in time – in which case the original drivers for the investment are irrelevant.

82 We understand that, when the Commission refers to inconsistency, it is concerned about the potential for a regulated business to change between these overarching principles and logic when allocating costs. In our view, these are not principles for the allocation of 'shared' costs. Instead these are to be applied during the first step of the process, which is an attribution of assets and operating expenditure as set out above i.e. the principles on which attribution should be based. These principles need to be applied consistently.

83 We are encouraged that the Commission is comfortable that the specific allocators (used to allocate the 'shared' bucket) may need to change over time (i.e. between pre- and post-implementation) as better information is gained or if changes occur. Post-implementation there is a greater need to ensure workability of PQR. That means allocators should be forecastable, able to be updated with actuals during ex-post wash-up processes, and auditable.

84 So, for the allocation of shared costs, we also support alignment with allocating costs between FFLAS and non-FFLAS for forwards-looking cost allocation, which applies ABAA when calculating past financial losses. In line with ABAA, the allocation (and therefore choice of allocator) should be made on the basis of causal allocators determined using the best information available. Where a causal allocator cannot be identified, or the information doesn't exist, then proxies should be used.

85 We agree with the Commission that the dynamic nature of asset and cost sharing needs to be taken into consideration when determining the past financial losses fibre asset. We support an approach that requires cost allocation calculations to be undertaken for each year up to the implementation date.

Information asymmetry

86 The Commission has asked for comment on information asymmetry. We acknowledge there are issues around this, especially in the early years of the regime. The Commission will want to ensure that regulated suppliers apply the cost allocation IMs appropriately, while also providing interested parties with confidence in how the past financial losses fibre asset have been calculated. However, we have confidentiality concerns given the detailed information required to demonstrate our compliance is typically commercially sensitive. Suggestions for addressing potential concerns around information asymmetry include:

86.1 Using an independent third party, with a duty of care to Chorus and the Commission;

86.2 A requirement to demonstrate reconciliation (i.e. reconcile cost allocation back to statutory accounts – which would ensure no over recovery of costs); or

86.3 Require suppliers to submit detailed cost allocation information to the Commission only, so that it can assess approaches and provide reassurance to interested parties.

87 In deciding the appropriate option for addressing information asymmetry, the Commission needs to consider the balance between giving stakeholders enough assurance versus the administrative cost and burden of each of the options. The first option (using an independent third party), seems the most pragmatic and timely option.

Simplified approach to cost allocation for the calculation of past financial losses in the initial RAB

88 We welcome the Commission's appetite for a simplified approach to cost allocation for calculating the past financial losses in the initial RAB. We generally support the Commission's suggestions for simplifying the approach to past financial losses, including:

88.1 An allocation performed on an annual basis using dates that align with current reporting cycles; and

88.2 Adopting a level of aggregation for assets and operating expenses that aligns with existing data, because requiring data to be re-cut would be time consuming and complex.

89 However, we do not support an approach which relies on existing ID. As emphasised in our submission on the Process and Issues Paper,[48] the existing ID approach isn't sufficiently granular in some aspects.

90 Our current ID approach was developed only to satisfy the requirements of the 2012 ID Determination, which means they are easily auditable but not necessarily the most accurate measures. We don't think it would be appropriate to apply the current approach to the future regime, because:

90.1 The current approach is based on a generic 'fibre asset' basis, but the allocation approach under the new regime will need to reflect FFLAS; and

90.2 The causal drivers considered for current ID allocations were necessarily selected at a high level (for practicality reasons) and applied to high level asset groupings. The reality is that there are other causal drivers applicable to each layer of asset and it's appropriate to reconsider these for each asset category under the new regime.

Treatment of the financial loss asset post-implementation

91 Once the financial loss asset enters the RAB, we agree with the Commission that depreciation and revaluation should apply.

92 We also agree that the financial loss asset's life should be set equal to the weighted average life of the assets in the base RAB.

93 We disagree with the characterisation of the financial loss asset as a "*special case, intangible asset*".[49] Instead, we see the financial loss asset as having a direct relationship with the assets in the base RAB. It is simply the difference between the amount of recovery assumed by the application of straight-line depreciation to our assets pre-implementation, and the amount of the cost of those assets that Chorus has actually recovered in revenues (economic depreciation). It follows that the asset life for the financial loss asset should be set with reference to the lives of the assets to which it is linked.

Depreciation of assets backed by Crown financing

94 The Commission asked participants at the workshop whether depreciation should be permitted as a BBM component during the loss period with respect to the value of the assets funded by Crown financing. We believe depreciation of the assets funded by Crown financing should be permitted during the loss period.

95 First, Crown financing wasn't associated with any specific asset and it's wrong to treat it as such. Instead, the sequence was:

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[48] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [23].

[49] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper* at [236].

95.1 Chorus was responsible for installing assets and paying all of the associated bills, in which it directly incurred cost, which can be calculated in the standard BBM;

95.2 Once certain criteria were met (premises passed) Chorus was able to receive finance on concessional terms – so this generated a benefit to Chorus (as it avoided Chorus having to obtain the finance elsewhere, which would have cost more); and so

95.3 The net cost to Chorus must therefore be the difference between the BBM (gross) cost and the benefit from the Crown financing – and it is this amount that is compared to actual revenue to calculate the loss.

96 Second, this is an issue related to the benefit assumed from Crown financing. As mentioned above, the benefit (in terms of the avoided cost of finance, as a rate of return) is not the cost of capital rate. This is because the Crown did not absorb the full project risk (the funds that are repayable are tied to the original principal, rather than to a share of whatever the project is worth). If a different interest rate is used to calculate the benefit of the Crown financing, then the only practical way to calculate this is to keep the physical cost and the benefit separate, as described above.

97 However, if the benefit was calculated at the cost of capital rate (as Lally and the Commission have assumed), then there would be two equivalent methods for treating the Crown financing, one of which includes depreciation in the BBM cost and one which does not.

98 Importantly, as the Crown financing must be re-paid (they were not a grant), this needs to be included in the calculation. These two options are:

98.1 **Option 1** – Calculate the gross cost of service and net off the (annual) benefit from Crown financing (CIP funds x cost of capital) until those funds are repaid. Under this option, Crown financing is netted off our return on capital, but the full depreciation value flows through. This is the approach we support.

98.2 **Option 2** – Calculate a net cost of service (CIP funds are deducted from the RAB, and so not included in either the return on capital or depreciation). However, at the time the Crown financing is repaid, this needs to be treated as capital expenditure (i.e. CIP is represented as negative capital expenditure initially and then positive capital expenditure once repaid).

99 The NPV of both options is the same, although they have different time paths (and option 1 has the benefit of being smoother). Therefore, if the world was as simple as the Commission has assumed, the choice would not matter in NPV terms. However, if the benefit from Crown financing is to be represented accurately, then the Commission needs to include depreciation of assets backed by that financing.

TOPIC 2: COST ALLOCATION

High level features:

- We agree with the Commission's proposal to broadly adopt the cost allocation approach used in Part 4.
- We support the requirement for the regulated supplier as a first step to allocate costs that are directly attributable to FFLAS. Costs that are not directly attributable to FFLAS will then be allocated using ABAA.
- We also support the requirement for the regulated supplier to apply the same definition of a causal relationship used in the Part 4 regime. Where a proxy allocator is used, the supplier must explain why a causal relationship cannot be established and explain the rationale for the choice of proxy allocator.

We recommend:

- Cost allocation is applied to each year, as opposed to each RP. Otherwise it will underestimate shared costs due to copper to fibre migration.
- There may be circumstances where Chorus could establish a causal relationship, however it's not practical to do so (e.g. costly or time consuming to do so). It's more appropriate for the cost allocation IM to allow proxy allocators when it allows a better ability to forecast.
- There is more scope to support causal allocators for the initial RAB, than there is for forecasting processes, by analysing actual utilisation of the assets.

Allocation of costs between FFLAS and non-FFLAS

100 We support the Commission's proposal to adopt the approach used in the Part 4 regime to allocate costs across regulated and non-regulated services. In particular, we support:

100.1 A requirement to allocate directly attributable and non-directly attributable costs;

100.2 The approach for shared costs, including the use of causal allocators;

100.3 The use of proxies when a causal relationship cannot be established; and

100.4 The explicit requirement against double recovery of costs.

101 The Commission's support of a principled approach allows regulated suppliers the flexibility to decide what level of asset group, services or operating expense categories cost allocation is applied to best suit their unique circumstances, while ensuring that cost allocation IMs are consistent with the Part 6 Purpose. This approach:

101.1 Is enduring, as it will allow for a change in the level of sharing on the network going forward; and

101.2 Allows for the evolution and improvement over time of recorded data as we transition to a new regime.

102 The Commission considered the range of cost allocation options used in Part 4 and assessed their applicability to the fibre sector:

102.1 Accounting-based allocation approach (**ABAA**);

102.2 Avoidable cost allocation methodology (**ACAM**); and

102.3 Optional variation accounting-based allocation approach (**OVABAA**).

103 While we support the inclusion of ABAA, we do not support the exclusion of OVABAA when allocating costs between FFLAS and non-FFLAS.

104 It is efficient to incentivise a regulated business to use regulated assets to also provide unregulated services if the regulated business is able to recover at least the incremental costs of doing so. However, under ABAA, the costs that would be allocated to the unregulated activity could exceed incremental cost because this is an accounting method, rather than an economic allocation. Therefore there is a risk that ABAA could make the provision of an unregulated service uncommercial and unprofitable even if it is efficient. This is a risk that the Commission identified in the Part 4 context, and therefore allowed for the use of OVABAA. The same reasoning supports its inclusion in the Part 6 IMs.

105 OVABAA is a 'safety valve' that provides a check of the economic common sense of an allocation, and importantly ensures that:

105.1 Unregulated services cannot be subsidised, as the minimum allocation to unregulated services is incremental cost;

105.2 The regulated supplier is required to allocate the maximum amount of common cost to the unregulated activity that the latter activity can bear, thus maximising the benefit to the consumers of the regulated services;

105.3 The OVABAA process is only activated if the situation arises where an efficient service may be discouraged and therefore does not give rise to any complexity or administrative costs unless a situation arises to justify them; and

105.4 The existence of a 'safety valve' will provide greater encouragement to the regulated supplier to search for options to use regulated assets for different activities to benefit consumers.

106 OVABAA is also an important inclusion into the Part 6 IMs because:

106.1 OVABAA is not just about encouraging regulated firms to provide innovative services in the same industry. It is also intended to encourage regulated firms to use regulated assets to provide services in a completely unrelated industry, which will provide benefits to consumers;

106.2 The economic rationale for providing the option of OVABAA for FFLAS is no different than for the Part 4 firms. Accounting allocators can unintentionally result in more common costs being allocated to unregulated services than a supplier is able to recover. This may result in the efficient and consumer-benefiting activity becoming unprofitable, and so, the economic safety valve is needed;

106.3 As with Part 4 businesses, the purpose statement (i.e. section 162) provides the legal rationale for including OVABAA as it is about promoting the long term interests of FFLAS end-users. Section 166(2)(b) also supports the inclusion of OVABAA where this would be needed for Chorus to enter and compete in an unregulated telecommunications market;

106.4 The Commission's concerns that OVABAA would harm competition is not warranted, given:

(a) Entry into unregulated markets cannot be subsidised – under OVABAA, the unregulated service must bear at least its incremental cost; and

(b) OVABAA cannot be activated if the unregulated service would be profitable already under an ABAA allocation.

106.5 In addition, complexity from applying the option of OVABAA in the IMs is not of concern – it will sit in the background until a situation arises that requires its use. Chorus would not expect to pursue an OVABAA case unless it was sufficiently material to justify the administrative cost.

Allocation of costs between different types of FFLAS

- We agree with the Commission's proposal that there should not be prescriptive cost allocation IM rules for allocating costs among different types of regulated FFLAS.
- However the Commission's proposal for shared costs to be based on certain characteristics including geographic coverage, individual products, etc. drives unnecessary complexity (*Topic 1a: Asset Valuation – excluding financial loss asset*).

107 We support the Commission's proposal to defer to a future regulatory period the decision whether not to allocate costs among different types of FFLAS given:

107.1 It's neither necessary, nor appropriate, given the time constraints to implement this regime for RP1 (except where the Act requires UFB versus non-UFB for purpose of calculating the financial loss asset);

107.2 The same assets are used to deliver a range of different services – there are very few (by value) assets that are directly attributable to a specific service. That means allocation will play an important role, and allocations to this level of detail will be largely subjective;

107.3 It is uncertain what value this would add in the short-term;

107.4 The primary purpose of cost allocation is to identify the regulated verses unregulated costs and that's what the Commission should focus on; and

107.5 We need time to understand how everything hangs together in this regime before implementing even more complexities, especially given the risk of getting it wrong is significant as this is new territory for the Commission.

108 Any future situations that would require suppliers to allocate costs between different types of FFLAS are purely arbitrary at this point. This level of granularity should only be considered at the time such a need is apparent. There's a risk of driving significant cost and complexity into our systems and reporting processes to produce information that is not fit for purpose for future situations that are currently unknown. The cost of doing so would ultimately be borne by consumers.

109 Therefore we don't support including an IM to allocate costs among FFLAS at this time. As set out in our response to the Commission's Process and Issues Paper:[50]

109.1 It's difficult to see how a methodology which informs cost-based pricing can be determined under a revenue cap;

109.2 We have other constraints under the regime (including the anchor service and geographically consistent pricing), which are set irrespective of cost. These mechanisms don't make sense when costs are allocated by service; and

109.3 This would be an overly complex exercise within the timeframe prior to RP1, driving additional implementation complexity.

110 However, should situations arise requiring a cost allocation IM for rules to allocate costs among FFLAS, then we agree that the IM should not be prescriptive.

111 Our discussion of data granularity for the cost allocation approach is set out *Topic 1a: Asset Valuation – excluding financial loss asset*.

Operating expenses

112 We support an approach to allocating operating expenses that seeks to ensure all categories of operating expenses are covered, without the need for prescription.

113 While we agree that some form of guiding principles is required, the Commission doesn't define what it means by a requirement for consistent, objective, measureable and timely cost allocators. So it's hard to see how these will be applied in practice.

114 We agree that the approach needs to recognise the differences between Chorus and the other LFCs by allowing us to use allocators that are specific to our individual businesses. The principled approach proposed by the Commission would allow this to be achieved.

[50] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [190-196].

Relationship with the FPP model

115 While it is important to ensure that no double or over recovery occurs as a result of a cost allocation approach, the principle of no missing costs (i.e. that cost allocation provides confidence that permit costs to be recovered at least once) is equally important.

116 We agree with the Commission that a mechanistic check against double recovery cannot be done for the FPP and FFLAS split in the same way that it can between two Part 4 regulated firms (or an LFC's fibre and Electricity Distribution Business (**EDB**) activities). This is because the checks the Commission applies against the double recovery of costs for firms under Part 4 arise in the context where:

116.1 Most of the costs that are shared are operating costs and where assets are shared, the values assigned to the assets are consistent across the sectors; and

116.2 Price reviews in each of the sectors occur every 5 years (or more frequently), so where the decision in one sector requires a change to the allocation in another it can be remedied reasonably expeditiously.

117 In contrast, for Chorus, where there is sharing between FFLAS and copper:

117.1 The sharing of assets is substantial, and the valuations of the assets are not consistent (i.e. one is based upon (past) actual cost and a calculation of economic recoveries, whereas the other reflects the replacement value but of a hypothetical and highly optimised network). Therefore, a simple comparison of what recovery was assumed in one sector compared to the other cannot be undertaken; and

117.2 The regulated prices for copper services (where they remain) are locked in. This means we are unable to revise copper prices to remedy an incorrect assumption when setting the FFLAS revenue cap about the costs that are recoverable from copper services.

118 In addition, the quantum of shared costs that can be recovered from copper is very hard to observe. First, the price for copper services reflected the average cost across the whole of the copper network. However, the consumers migrating to fibre are coming from the lower cost areas (being those areas covered by the UFB footprint), with the higher cost areas remaining. The fact that an average cost charge is being earned in high cost areas means a reduced contribution to shared costs.

119 Second, the setting of the FPP prices implicitly assumed that the unit cost of copper services will decline in proportion to the number of consumers served (price is independent of consumer numbers). However, there are substantial fixed costs associated with copper services, which in turn means that the contribution to shared costs from copper will also fall as consumers migrate.

120 We also suggest the Commission removes the asymmetry in its discussion. Rather than focusing solely on avoiding double recovery, any qualitative test should also be framed to provide confidence that all costs would be recovered across the relevant activities.

121 Therefore, the guiding principle of cost allocation is that the amount of shared cost that is assumed to be recoverable from some other activity is consistent (or not materially greater than) the amount that can in fact be recovered from that activity – i.e. at least once recovery principle.

122 Our approach to cost allocation for the purposes of the initial RAB, is set out in the cost allocation section under *Topic 1b: Asset Valuation – financial loss asset*.

TOPIC 3A: COST OF CAPITAL

- We support the overall conceptual framework the Commission proposes to adopt from Part 4 for determining the cost of capital.
- Within that methodology, the Commission needs to take into account differences between the respective regulatory regimes and regulated services and reflect these differences in elements of the FFLAS cost of capital. The differences include:
  - FFLAS are emerging regulated services provided in a dynamic telecommunications sector, subject to uncertainty about demand and willingness to pay, which is not normally a feature of other regulated services.
  - The Part 6 framework includes a range of additional complexities and regulatory constraints on Chorus, including both a revenue cap and price capped anchor services.
  - The assets used to provide FFLAS have largely been constructed or acquired under contracts with Crown under the UFB initiative.
  - FFLAS involves a much greater policy emphasis on efficient investment in fibre ahead of demand, including incremental expansion into areas served by other technologies.
- These differences mean we diverge from the views in the EV Paper regarding the following parameters for FFLAS:
  - **Asset beta** – We support the Commission's approach to determining the asset beta but disagree with CEPA's analysis. In particular, we disagree with a number of CEPA's assumptions when determining the relevant comparator sample. Oxera's analysis suggests a range of **0.46 to 0.57** would be more appropriate, with a **mid-point estimate of 0.52**. Given the absence of pure-play fibre companies in the comparator sample, Oxera concludes that an asset beta for fibre should lie above the mid-point to reflect the higher risk of fibre businesses.
  - **TAMRP** – We agree with the Commission's proposal to update the TAMRP and specify a value in the cost of capital IM.
  - **Cost of debt** – We disagree that an appropriate credit rating for this analysis is BBB+. Oxera has produced evidence in support of a BBB rating.
  - **Cost of capital uplift for risks of mis-estimation of the cost of capital** – We disagree with the conclusion in the EV Paper that the consequences of under investment mean no uplift to the cost of capital is needed. Houston Kemp concludes there is a strong case for a cost of capital uplift for FFLAS. There is a direct and strong relationship between allowable cost of capital and Chorus' incentives for efficient investment. The negative consequences to consumers of under-estimating the true cost of capital for FFLAS are likely to comfortably exceed any negative consequences of over-estimating the cost of capital.

- **Cost of capital uplift for Type I catastrophic risk** – We agree with the Commission that compensation for Type I catastrophic risk is best addressed by ex-post compensation mechanisms. Protection through ex-post compensation avoids windfall gains and losses with little dampening effect on incentives.

Starting point

123 As the Commission correctly notes, cost of capital is one of the key inputs under the Part 6 framework. By approximating the return on capital that a hypothetical investor would require for an investment of equivalent risk, there is a clear link to real FCM. Without the right cost of capital, a regulated supplier will not have the opportunity to earn normal returns on an investment over the lifetime of that investment.

124 We agree that the Commission's high level approach to estimating the cost of capital in the Part 4 IMs and the UCLL/UBA FPP is appropriate for estimating the FFLAS cost of capital in these IMs. The Commission has a settled high-level cost of capital methodology, and has experience in applying that methodology in both the Part 4 and UCLL/UBA FPP contexts. Within that methodology, the Commission is required to take into account differences between the respective regulatory regimes and regulated services and reflect these differences in specific elements of the FFLAS cost of capital methodology, in accordance with the purpose statement.

125 In particular, we agree with the use of a service-wide approach to setting the mid-point estimate of the FFLAS cost of capital (before applying an uplift) and the simplified Brennan-Lally Capital Asset Pricing Model (**SBL-CAPM**).

126 We also agree with the Commission that there are reasons why the Commission may need to depart from its established approach to estimating the cost of capital in some areas. In particular, these reasons relate to the dynamics of telecommunications markets, the differences between the Part 6 and Part 4 regulatory regimes, and the differences between the Part 6 and the copper-fixed line regulatory regimes.

127 For clarity, we expect the Commission will:

127.1 First set a service-specific mid-point estimate of the cost of capital for all regulated suppliers of FFLAS;

127.2 Then determine the appropriate point above the mid-point estimate of the cost of capital range reflecting the asymmetric consequences of under-investment in Chorus' FFLAS; and

127.3 Finally, consider whether a further adjustment is required to reflect supplier-specific idiosyncratic risk, which should include the effect the Part 6 regulatory framework has on Chorus.

128 This means the final cost of capital for FFLAS may differ between regulated suppliers of FFLAS.

Cost of equity

Service-wide approach

129 We support the Commission's proposal to take a service-wide approach to cost of equity when determining the cost of capital IM for FFLAS and the SBL-CAPM.

130 We asked Oxera to comment on key aspects of the cost of equity methodology in its report.[51] Based on Oxera's advice, we recommend the same comparator sample and asset beta be used for both Chorus and other LFCs.

131 Oxera notes in its report that the demand risk exposure of Chorus and other LFCs is fairly similar. So Oxera considers the same comparator sample, and the same subsequent sector-wide asset beta, would adequately capture the total systematic risk exposure of both Chorus and other LFCs.[52]

Asset beta – comparator sample

132 We support the Commission's six-step approach to estimating the asset (and equity) beta value. We also support its view that it is appropriate to estimate a FFLAS asset beta based on a comparator sample developed specifically for the regulated suppliers of FFLAS.

133 However, we disagree with a number of CEPA's assumptions when determining the relevant comparator sample for the FFLAS asset beta. These assumptions mean CEPA's comparator sample, and the resulting recommended asset beta, don't accurately reflect the systematic risk associated with providing FFLAS.

134 The comparator sample is a crucial input to the cost of capital parameters for the asset beta, leverage and credit rating. It goes to the core purpose of the cost of capital methodology – to represent the cost of capital of the regulated service in the context of its relative risk.

135 Getting the comparator sample right is the first step in accurately estimating these parameters. If the comparator sample is fair and representative, then these parameters can be estimated in a relatively straightforward way. Ideally, the comparator sample would be comprised of listed, wholesale fibre-only network operators (i.e. pure-play fibre companies). However, these true comparators are not available.

136 In the absence of pure-play fibre companies, Oxera has reviewed the comparator sample proposed by CEPA and expanded it to include telecom providers in the

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[51] Oxera (15 July 2019), *Compensating for systematic risks*.

[52] Oxera (15 July 2019), *Compensating for systematic risks*, section 3.

developed Asia-Pacific countries, namely Japan, Singapore and Hong Kong. Oxera's filtering criteria then excluded some existing comparators in the CEPA sample.

137 These changes result in a more appropriate, but still not truly comparable, comparator sample. As Oxera notes, this refined comparator sample consists of well-diversified companies that own and operate differing combinations of copper, fibre, mobile and other telecommunication assets.[53]

138 In the absence of sufficient evidence to justify the higher weight that is implicitly placed on the 'wholesale' providers by splitting the sample, Oxera recommends it is more appropriate to equally weight the comparators by estimating the asset beta based on the total sample.[54]

139 Based on Oxera's refined comparator sample, the average 5-year asset betas of the total sample estimated over different frequencies (daily, weekly and monthly) are between 0.46 and 0.57 with a mid-point of 0.52.[55]

140 However, in light of the underlying lack of full comparability, the final step is to assess any differences in systematic risk between pure-play fibre providers and the comparator sample, so that any necessary adjustment can be made to determine the appropriate FFLAS asset beta.

Asset beta – adjustment for FFLAS

141 We believe the notional asset beta from the comparator sample is likely to underestimate the systematic risk for FFLAS. The Commission should apply an upward adjustment to the average asset beta for the comparator sample, to recognise the higher systematic risk of FFLAS compared to the telecommunications services provided by the firms in the comparator sample.

142 Oxera explains this higher systematic risk arises due to:[56]

142.1 The higher elasticity of demand for FFLAS. FFLAS is likely to be more responsive to changes in the economy due to the higher cost and greater value added (high speed) services provided by the fibre network relative to the copper network.

142.2 The higher operating leverage. A fibre network which is expected to incur additional capital expenditure in the future as connections are laid out and take-up of fibre increases, is likely to have a higher operating leverage compared to a mature copper network, with a relatively low proportion of fixed costs. This is particularly relevant to the pre-implementation date asset beta.

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[53] Oxera (15 July 2019), *Compensating for systematic risks*, section 5.

[54] Oxera (15 July 2019), *Compensating for systematic risks*, section 4.

[55] Oxera (15 July 2019), *Compensating for systematic risks*, section 5.

[56] Oxera (15 July 2019), *Compensating for systematic risks*, section 3.

142.3 Long-term pay-offs. The fibre network will have long-term cash flows relative to the legacy copper network due to the longer remaining economic lives of fibre assets. This long-term nature means that FFLAS is likely to be exposed to greater systematic risk than shorter duration projects due to the increased uncertainty in long-term cash-flows extending far into the future.

143 Oxera concludes that given a proportion of these comparator companies consist of lower risk businesses (i.e. copper), the asset beta for a standalone FFLAS is likely to lie above the 0.52 midpoint of the asset beta range estimated from the comparator sample.[57]

TAMRP

144 We support the Commission's proposal to estimate and specify in the cost of capital IM a value for the TAMRP, rather than to adopt a TAMRP of 7%, which it currently applies in the Part 4 IMs.

145 As the Commission rightly notes, if the Commission were to adopt the current TAMRP from the Part 4 IMs, by the time of the next review of the Part 4 IMs that parameter would potentially be 12 years old. It would be difficult for the Commission, FFLAS suppliers and interested parties to have confidence that the TAMRP was still accurate after so long. Estimating a fresh TAMRP at the start of the Part 6 regime would mitigate this concern.

146 While this may mean a different TAMRP value could apply under the Part 6 IMs from the Part 4 IMs, we share the Commission's view that this is not a significant concern. We asked Houston Kemp to comment on this issue in their report. As it explains, as the Commission's methodology for estimating the TAMRP gives rise to relatively stable estimates through time, a different TAMRP across regulated sectors would be unlikely to result in a material distortion to investment decisions.[58]

Cost of debt

Risk-free rate

147 We accept the Commission's intention to set the risk-free rate in a similar way to Part 4, which includes:

147.1 Using the return on NZ Government bonds as a proxy;

147.2 Using prevailing rates;

147.3 Using a 3-month determination window; and

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[57] Oxera (15 July 2019), *Compensating for systematic risks*, section 5.

[58] Houston Kemp (12 July 2019) *Risk free rate, debt premium and TAMRP*, section 3.4.

147.4 Matching the term of the risk-free rate to the regulatory (i.e. price-setting) period.

148 As explained in Houston Kemp's paper,[59] the Commission's proposal to apply the same approach to estimating the risk-free rate for FFLAS in the post-implementation period as it does for other regulated services is sensible. Maintaining a consistent regulatory approach, where appropriate, promotes greater certainty for suppliers, their customers and consumers. The risk-free rate is not an industry-specific variable, and we are not aware of any relevant framework differences, or new information, which means that the Commission Part 4 approach can't be appropriately applied in the post-implementation period for FFLAS under Part 6.

Credit rating and leverage

149 We disagree with the Commission's view that an appropriate credit rating for Chorus' FFLAS is BBB+. Based on Oxera's expert advice,[60] an appropriate credit rating is BBB.

150 We are unclear on the Commission's view of the appropriate leverage for FFLAS. Based on Oxera's expert advice, the average value of the leverage in the refined comparator sample is 33%. However Oxera concludes a notional gearing of 30% for a standalone regulated supplier of FFLAS would be consistent with the comparator sample and the comparatively higher risk of fibre relative to copper.[61]

151 The first step in estimating the appropriate credit rating and leverage for FFLAS, is to ensure the comparator sample from which the credit rating and leverage (as well as asset beta) are derived, accurately reflects the nature of FFLAS. Our comments on the appropriate comparator sample are set out above.

152 We are concerned by the Commission's statement "*we are not aware of any reason why an efficient telecommunications business should have a lower rating than an energy business*"[62] and its implications for the comparator sample. This statement is inconsistent with the CEPA report. Notwithstanding our concerns with CEPA's comparator sample (as set out above), CEPA's comparator sample did not include a single wholesale-only service provider at BBB+ or above, yet multiple energy businesses have a rating higher than BBB+. Further justification is required if the Commission does not consider that any of the wholesale-only service providers in its comparator sample are efficient telecommunications businesses. This reaffirms our strong view that identifying the best possible comparator sample is the foundation of determining many cost of capital parameters, including the notional credit rating.

153 The second step in estimating the appropriate credit rating and leverage for FFLAS, is to estimate the notional credit rating (based on the average value observed for the

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[59] Houston Kemp (12 July 2019) *Risk free rate, debt premium and TAMRP*, p 3-5.

[60] Oxera (15 July 2019), *Compensating for systematic risks*, section 4B.

[61] Oxera (15 July 2019), *Compensating for systematic risks*, section 5C.

[62] Commerce Commission (21 May 2019) *Fibre regulation emerging views: technical paper*, at [492].

firms selected in the relevant comparator sample), and the notional leverage (based on the range of average values observed for the firms selected in the relevant comparator sample).

154 The third step in estimating the appropriate credit rating and leverage for FFLAS, is to assess whether the notional credit rating and notional leverage are consistent with the actual cost of borrowing, which is affected by the investment requirements under the UFB initiative. We set out below some factors relevant to this assessment.

155 While we support the Commission's proposal to apply a service-wide approach to the cost of capital mid-point estimate for FFLAS, the Commission must act consistently with section 177(3)(b) of the Act by referring to the effects of the contractual arrangements between Chorus and the Crown on Chorus' actual cost of borrowing, as well as the extent to which the Commission's Part 4 approach to estimating cost of debt could result in under-compensation of Chorus' actual cost of borrowing.

156 As the Commission has noted, it can be appropriate to look at actual cost of debt and adjust for "*the divergence of debt management practices of regulated suppliers*".[63] We also note Ofcom's view that fibre services were likely to have a higher leverage, due to their higher capital obligations, which is consistent with Oxera's expert report attached.[64]

157 In Figure 1 below, it is clear the Commission's annual estimates of the cost of debt for the regulated suppliers with a BBB+ credit rating , which is the Commission's proposed credit rating for FFLAS, have consistently been lower than the actual cost of borrowing for Chorus (except for FY 2012).[65] This illustrates the risk of financeability, if the notional credit rating, leverage and debt premium were determined without regard to the true cost of Chorus' financing of the UFB initiative investment.

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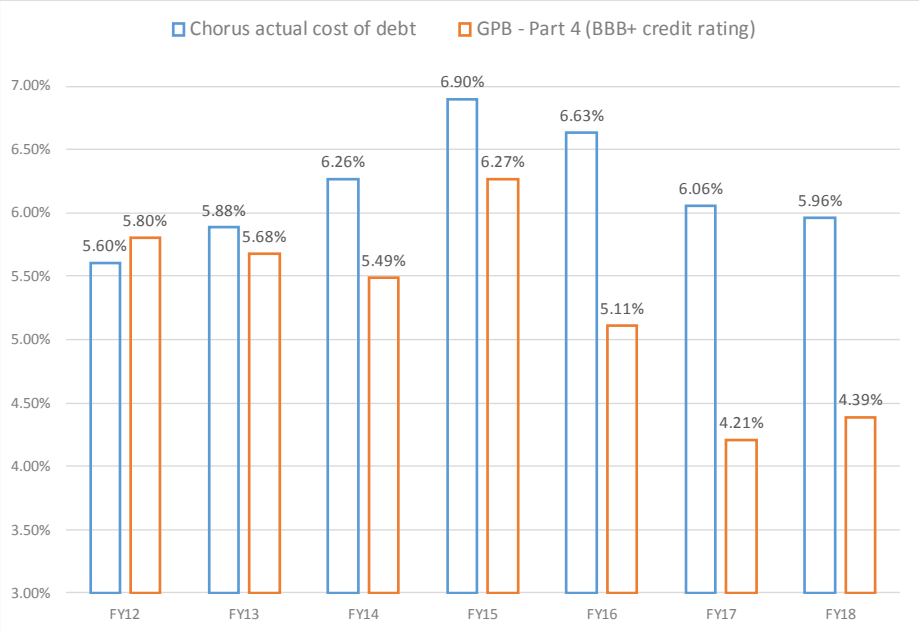
[63] Commerce Commission (21 May 2019) *Fibre regulation emerging views: technical paper*, at [498].

[64] Oxera (15 July 2019), *Compensating for systematic risks*, section 2.

[65] See the Commission's annual WACC for ID determinations for GPBs – Vector and GasNet, and "weighted effective interest rate" published in Chorus' Annual Reports.

Figure 1 – cost of debt comparison Chorus vs Part 4 GPBs (BBB+)



Debt premium

158 We accept the Commission's view that it is appropriate to apply in the post-implementation period the same approach to estimating the debt premium and TCSD as it does for other regulated services, including those regulated under Part 4.

159 In determining the debt premium, the benchmarked credit rating should be sector-specific and not necessarily the same as in Part 4, given FFLAS' higher risk and demand uncertainty. Unlike the risk-free rate, the debt premium can vary by industry (i.e. to the extent that debt investors view those industries as involving different degrees of risk). This requires considering further the emphasis placed on observed debt premiums on bonds issued by qualifying issuers in different industries.

160 The hierarchical structure applied in the Part 4 IMs places the most emphasis on bonds issued by electricity and gas distribution businesses (i.e. providers of the regulated services). The hierarchical structure the Commission adopts should similarly place the most emphasis on bonds regulated suppliers of FFLAS issue, followed by bonds other infrastructure services providers or New Zealand corporates issue.

Debt issuance costs

161 We agree with the Commission's proposal to provide an allowance for debt issuance costs using the estimate determined during the 2016 Part 4 IM review, adjusted for the term used for the risk-free rate (i.e. the relevant regulatory period).

Uplift and asymmetric risk

162 We welcome the Commission's recognition that a cost of capital uplift is an orthodox and justified mechanism.

163 As the Commission rightly notes: [66]

> *A cost of capital uplift is important because there could be reasons why a return that is equal to our best estimate of the cost of capital (i.e. our 'mid-point estimate') does not result in a supplier expecting to earn a normal return*.

Uplift for asymmetric consequences of under-investment

164 We agree with the Commission that the analytical framework used in previous cost of capital uplift assessments is appropriate for considering the potential asymmetric consequences of under-investment for FFLAS.

165 We disagree with the view in the EV Paper that:

165.1 The framework illustrates the significant costs of the uplift;

165.2 The benefits from mitigating under-investment do not outweigh this cost on the basis that FFLAS uses a new network and the availability of alternative technologies is likely to mitigate the impact of any outages on consumers; and

165.3 Any under-investment in FFLAS is less likely to be 'hidden' compared to the energy sector, with under-investment showing up in performance standards more quickly.

166 Instead there is a strong case for a cost of capital uplift because:

166.1 There is a strong link between the cost of capital and incentives for investment; and

166.2 The costs to consumers of under-investment in FFLAS are likely to outweigh any potential price increase that consumers of FFLAS may experience as a result of an uplift to cost of capital.

167 The dynamic nature of the supply and demand for FFLAS distinguishes the circumstances of previous cost of capital percentile decisions in New Zealand. Chorus' investment decisions take place in a context of rapidly increasing bandwidth demand, increasing consumer expectations for quality of service, increasing population density, and dynamic parameters in relation to the costs of providing the service, including the optimal technology to employ to do so. Each of these factors highlights the higher risks of under-estimating the cost of capital and consequent under-investment.

168 On the other side of the ledger, the costs to consumers of over-estimating the cost of capital reflect static, allocative efficiency concerns. The Commission has proposed a

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[66] Commerce Commission (21 May 2019) *Fibre regulation emerging views: technical paper*, at [545].

blunt, over-simplistic way to measure that cost. However, the complex regulatory settings under the Part 6 framework (and in particular the price caps on anchor services) will limit the direct cost to consumers of a higher cost of capital.

169 In the time available, we have not attempted to quantify these costs or the appropriate uplift that should be applied. We are investigating how this quantitative analysis can be done and we expect to be able to put forward a framework for analysis as part of the Commission's draft decision consultation process.

170 Houston Kemp has provided advice to us on the Commission's analytical framework for assessing the asymmetric consequences of over and under-investment, and its relevance for determining a cost of capital percentile. Houston Kemp concluded there is a strong qualitative case for a cost of capital uplift.[67] We discuss the key points below.

The link between incentives for investment and the regulatory cost of capital

171 A prerequisite for a cost of capital uplift is a direct relationship between the allowed cost of capital and the service providers' incentives for efficient investment. As Houston Kemp says, the Commission has applied this prerequisite link in a number of other regulatory contexts: electricity, gas pipelines, specified airport services, and copper fixed-line services.[68]

172 In this case, there is a clear, direct and strong relationship between the allowed cost of capital and Chorus' incentives for efficient investment. This is because new investment will be rolled into the RAB and so will directly impact allowed revenues over the RP. In addition, the wash-up mechanism is likely to offer Chorus a buffer against year-by-year volatility. Put simply, it's very likely Chorus will directly benefit from an opportunity to earn an incremental revenue increase as a result of undertaking additional investment.[69]

173 Once this prerequisite has been satisfied, the primary outstanding question to apply a cost of capital uplift is whether the negative consequences to consumers of under-estimating the cost of capital are likely to comfortably exceed the negative consequences to consumers of over-estimating the cost of capital. As discussed below, this is very likely to be the case.

Consequences of over-estimating the cost of capital

174 We disagree with the view in the EV Paper that the framework illustrates the significant cost of the uplift. In particular, we disagree with the statement that the

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[67] Houston Kemp (15 July 2019) *WACC Uplift – Asymmetric consequences of under-investment*.

[68] Houston Kemp (15 July 2019) *WACC Uplift – Asymmetric consequences of under-investment*, sections 2.2.

[69] Houston Kemp (15 July 2019) *WACC Uplift – Asymmetric consequences of under-investment*, sections 4.1.

"*direct costs of an uplift will be relatively straight-forward to estimate by multiplying the WACC uplift by the RAB over the relevant period*".[70] As Houston Kemp notes:[71]

> *The price caps on anchor services (and the constraints that these price caps impose on the pricing of similar services) mean that the consequences of a WACC uplift are unlikely to flow through to increased prices for those services.*
>
> *As such, incremental revenues allowed under a WACC uplift are likely to be derived through targeting new or higher-value services, or extending the future time period over which unrecovered revenue under the MAR framework can be earned from FFLAS services. Such incremental revenues do not reflect a direct cost of the WACC uplift in the manner envisaged by the Commission in its emerging views paper.*

175 This approach overstates the direct costs of an uplift to cost of capital because it doesn't take into account that the regulation of Chorus' FFLAS is a combination of a revenue cap and price capped anchor services. Chorus can't increase the price of anchor services, so an uplift to cost of capital would not result in increased costs for anchor service consumers (or consumers of other FFLAS services that are substitutable or 'anchored' by anchor services). We note that anchor services make up a significant portion of Chorus' FFLAS revenue.

176 In addition, the geographically consistent pricing constraint on Chorus' FFLAS is likely to mitigate any potential increase in prices of non-anchor FFLAS services, to the extent Chorus' FFLAS may face non-homogenous competitive threat across New Zealand.

Consequences of under-estimating the cost of capital

177 This section sets out the potential consequences to consumers of under-estimating the cost of capital and dis-incentivising investment. Broadly, the impacts on investment fall into two main categories:

177.1 **Reliability** – Investment in maintaining, upgrading and expanding Chorus' network. This type of investment is important on an ongoing basis, notwithstanding that much of the network is currently 'new'. And the negative impacts on consumers of unreliability are not materially mitigated by wireless alternatives.

177.2 **Innovation** – Investment in new telecommunications products, either by Chorus or facilitated by Chorus. A focus on investment being undertaken for reliability purposes is overly narrow. As the Commission has previously considered, a higher cost of capital percentile can lead to asymmetric benefits to consumers from accelerating innovation in dynamic markets.

178 Investment of this nature offers material benefits to consumers, but the inherent uncertainties of setting a precise cost of capital means this investment may not occur

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[70] Commerce Commission (21 May 2019) *Fibre regulation emerging views: technical paper*, at [563.1].

[71] Houston Kemp (15 July 2019) *WACC Uplift – Asymmetric consequences of under-investment*, section 4.3.1

where the regulated cost of capital under-estimates a firm's true cost of capital. The negative consequences to consumers are real, and outweigh the potential negative consequences to consumers of over-estimating cost of capital.

A 'new' network

179 The Commission incorrectly assumes our fibre network is new and already providing significant quality of service to consumers – so reduces the potential benefits of inducing further investment or innovation. Our fibre network is substantially new but:

179.1 It will continue to need further investment in physical network infrastructure, building and engineering services, network electronics, IT systems and associated business processes – to maintain existing assets, capabilities and improve services and performance. Fibre technology is fast moving and needs ongoing investment simply to maintain performance in the face of rapid changes in usage and technological obsolescence. Chorus also has natural incentives to future proof the network where practicable;

179.2 The build employed existing assets wherever possible, in particular, extensive use of existing physical network and property assets (e.g. ducts, poles, manholes and exchange buildings, including associated power and engineering services plant);

179.3 The build also adopted a number of previously unproven technologies and deployment methods. This was unsurprising, given the lack of precedence for rolling out such a large scale mass market fibre broadband network, in New Zealand or elsewhere. And under aggressive timing and cost requirements;

179.4 Inevitably, some technologies and methods proved unsatisfactory for cost, difficulty to deploy, or performance reasons or may have created a need for further investment or higher maintenance costs medium term;

179.5 Customer demand will also continue to evolve with changes in demographics, housing density, connection speeds, desired line speeds and bandwidth demand, and changing applications for broadband connectivity, such as those driven by public WIFI, the Internet of Things and new media services. RSPs will also continue to seek new service capabilities, greater visibility and control of services, and improved performance and efficiencies in relation to their own operational processes; and

179.6 Given the scope of FFLAS encompasses the consumers of a wide range of telecommunications services (except for copper access services), including the end-users of mobile services, it is clear that FFLAS investment is relevant not just in the pre-implementation period but also from the implementation date onwards.

Availability of substitutes

180 We disagree with the Commission's view that the availability of alternative technologies is likely to mitigate the impact of any FFLAS outages on consumers and thereby reduce the asymmetry of under-investment in reliability.

181 The impact of FFLAS outages can be material as there are few feasible options for substitution:

181.1 FWA and mobile services can't provide the performance quality and speed that fibre broadband consumers enjoy; and

181.2 Mobile operators rely on FFLAS to provide their services, meaning FFLAS consumers include mobile, where a failure in our fibre network will directly impact mobile end-users.

182 The well-documented and continuing increase in fibre speeds and data usage entrenches fibre as the premier access technology. While FWA and mobile services are arguably a partial substitute for copper fixed-line services, the much increased performance quality and speed of fibre services means that FWA and mobile services are not an effective substitute for fibre services.[72]

183 The impact of fibre service outages is likely to increase over time.[73] Homes and businesses are becoming increasingly dependent on reliable fixed-line fibre services, particularly as average speeds increase. This is particularly true for businesses, who require connectivity with minimal latency, limited congestion, unlimited data caps and high speeds both downstream and upstream: all characteristics which only FFLAS can reliably provide. As Houston Kemp notes:[74]

> *Many of the factors that impact the reliability of the network over time are closely related to investment decisions. Taken together, if incentives to invest were low or absent (i.e. if the true WACC is higher than the allowed, regulatory WACC), these investment decisions are unlikely to be limited to small scale impacts on a limited number of customers.*
>
> *Rather, persistent under-investment could have wide potential reach and scale. While individual outages may be local in nature, in the sense that the total number of premises impacted by any one element failure is targeted to be capped, the sum of all outages in the event of under-investment is likely to be substantial, particularly when translated from end-users to consumers or premises*.

184 This is supported by the Commission's Measuring Broadband Report, which illustrates the significant differences in performance and speed between fibre and FWA broadband services.[75]

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[72] We also note the significant difference in usage for fibre and FWA broadband plans – fibre has unlimited usage, whereas FWA has no true "unlimited plan" – Skinny's largest fixed wireless plan is 240GB.

[73] Also, as Houston Kemp notes at page 15 of their report, FFLAS outages are not necessarily localised – they may affect many end-users, for example in the event of a fibre cut, that supports a mobile network operator's backhaul service connection.

[74] Houston Kemp (15 July 2019) *WACC Uplift – Asymmetric consequences of under-investment*, section 3.4.2.

[75] SamKnows (13 June 2019) *Measuring Broadband New Zealand, Autumn Report.* It is also supported by the Commission's own analysis at https://comcom.govt.nz/__data/assets/pdf_file/0019/89002/How-do-I-choose-my-broadband-fact-sheet.pdf.

185 The report shows that fibre is the fastest technology:[76]

Figure 2: download speeds peak vs 24/7

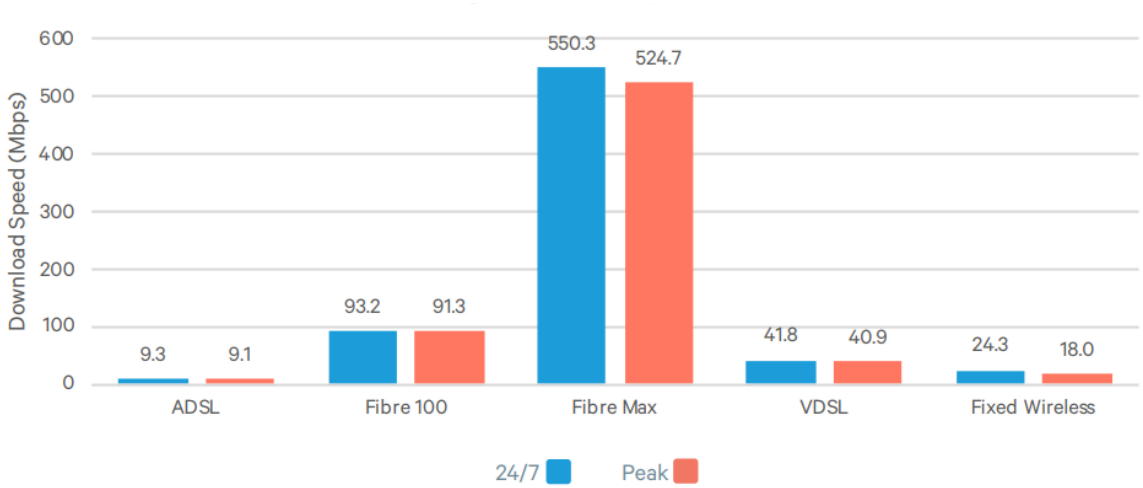
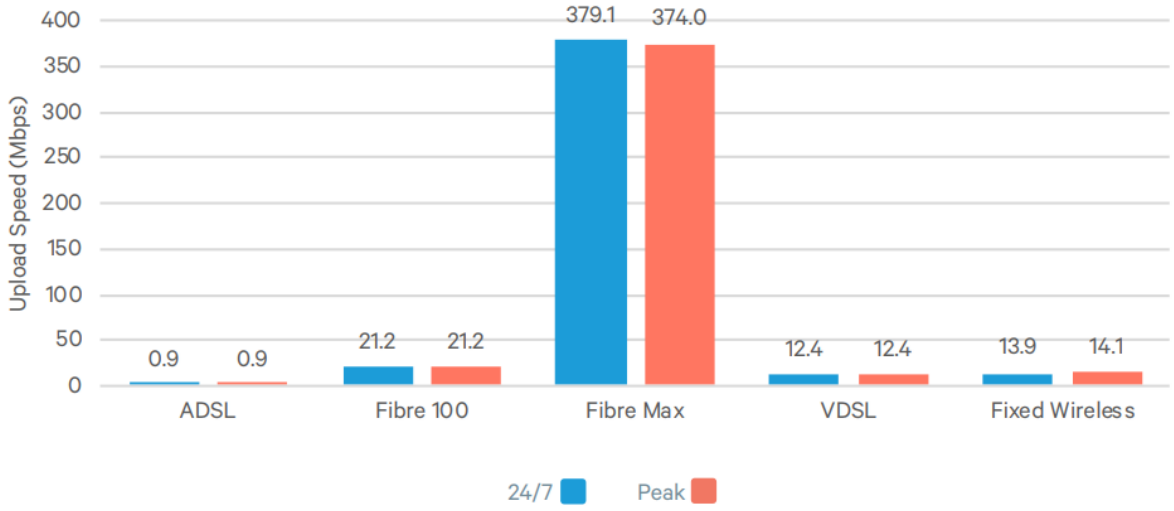


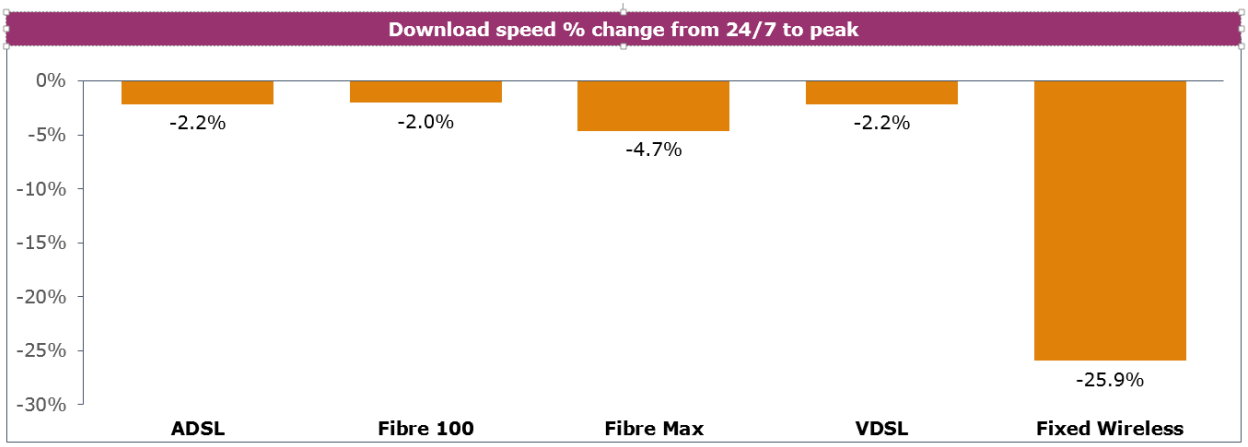
Figure 3: upload speeds peak vs. 24/7



[76] SamKnows (13 June 2019) *Measuring Broadband New Zealand, Autumn Report,* p 3.

186 The report also shows the significant change in download speed (-26%) experienced by FWA broadband users during peak, compared to the negligible impact on fixed technologies. [77] Given the impact of congestion on FWA performance is so dramatic during everyday peak periods, it is easy to understand the much greater impact of FWA congestion in a scenario where FFLAS is no longer available.

Figure 4: download speed percentage change from 24/7 to peak



187 The report also illustrates that FWA consumers are likely to experience severe lags and delays at all times of the day, whereas fibre consumers are likely to experience minimum lags and delays. The report observes that: [78]

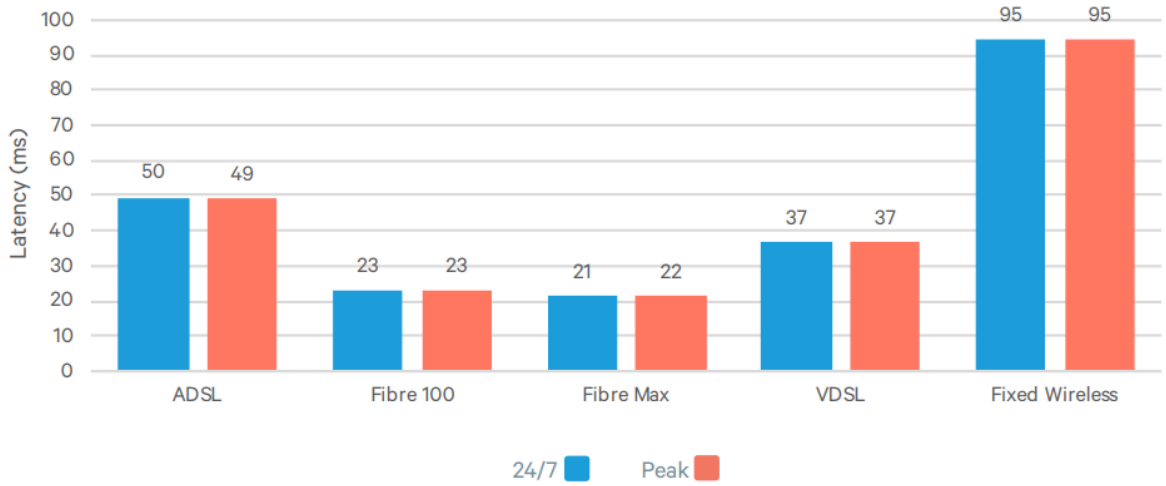
> *Web pages would load noticeably slower on Fixed Wireless services with the levels of latency measured here. This is to be expected as typically Fixed Wireless is not the first choice for delivering high-performance broadband, rather it is a solution for getting networks to harder-to-reach or sparsely populated areas.*

[77] SamKnows (13 June 2019) *Measuring Broadband NZ Autumn 2019 report*. Additional download speed % change calculated by Chorus using data from page 3 of the report.

[78] SamKnows (13 June 2019) *Measuring Broadband NZ Autumn 2019 report*, n 15, p 6.

188 The report indeed shows the following latency by technology:

Figure 5: latency by technology



189 Mobile services rely on FFLAS for mobile backhaul, and this will only increase with the future deployment of 5G cell sites. A failure of our network can therefore impact both fibre, FWA and mobile services in an area. If there was a fault impacting Chorus' FFLAS, then there is a reasonable likelihood that a significant number of consumers on mobile services would also lose the option of using mobile broadband, as well as any mobile services, in the interim. The Commission's assertion that mobile services are a substitute to FFLAS in the event of an outage is like stating that buses are a substitute to cars in the event of a road block – they rely on the same underlying network.

190 For the remaining mobile services that are not directly cut off in the event of an outage on FFLAS, due to the loss of mobile backhaul, it is very likely that congestion on the network would occur due to consumers attempting to use mobile connectivity or FWA during a fibre outage. As explained above, both FWA and mobile services are susceptible to congestion leading to degraded performance, which would increase when the network is overloaded due to a fibre outage.

191 A recent outage of one of our fibre cables connecting Waiheke Island illustrates how widespread the impact of a fibre outage can be and how ineffective both FWA and mobile broadband services are. In April 2019, damage to the Howick-Waiheke cable connecting Waiheke to our fibre network resulted in Waiheke being without fibre, copper, mobile and FWA services from around 3pm on 8 April to 2.30am on 9 April. As well as the outage to Chorus' fibre network, Chorus' copper broadband services were down, as they rely on the UFB network to the nearest exchange. Spark lost over 80% of its mobile services, because Spark uses Chorus' fibre network for mobile backhaul. The extent to which Vodafone or 2degrees' mobile services were impacted

was not reported. Around 4,000 households and businesses were affected by the outage.[79]

192 We also note, the Commission's consultation paper on retail service quality refers to the MBIE New Zealand Consumer Survey (2018), which observes *"A landline or broadband problem is more likely to have a severe impact on everyday life than problems with water or power utilities".*[80]

Under investment in FFLAS 'hidden'

193 We disagree with the Commission's view that any under-investment in FFLAS is less likely to be 'hidden' compared to the energy sector, with under-investment showing up in performance standards more quickly.

194 There is potential for hidden under-investment in fibre networks, where the impacts of investment take time to become apparent and which are unlikely to impact on performance metrics in the near term.

195 As described by Houston Kemp, network resilience investment offers a useful illustration of the potential for hidden asymmetric costs of under-investment:[81]

> *In all three areas, there is potential for hidden under-investment, and no reason to expect under-investment to be readily detected by RSPs. As is generally the case for investment in long-lived infrastructure assets, the consequences of investment take time to become apparent and are unlikely to affect performance metrics in the near term.*
>
> *A simple counter-example is helpful to illustrate the point. One category of investment is in network resilience. Chorus invests in resilience through duplicating certain physical elements, often paired with geographic independence. If an element of the network fails, this planned redundancy mitigates the risk of outages.*
>
> *Using the Commission's logic, if Chorus underinvested in physical resiliency relating to FFLAS, this would not be detected by RSPs until such point as an element that would otherwise have had sufficient redundancy fails – and would*

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[79] New Zealand Herald, *Broadband restored on Waiheke after cable fault found on land*, 9 April 2019 <https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12220441>; Chorus, *Loss of broadband services on Waiheke*, 8 April 2019 <http://business.scoop.co.nz/2019/04/08/loss-of-broadband-services-on-waiheke/>.

[80] Commerce Commission (25 June 2019), *Monitoring phone and broadband retail service quality Consultation paper,* p 3.

[81] Houston Kemp (15 July 2019), *WACC Uplift – Asymmetric consequences of under-investment*, section 2.5.2.

not necessarily be detected by RSPs before that point. As such, the investment is no 'less hidden' than for electricity.

Incentives to innovate, invest and expand

196 A focus on investment being undertaken to avoid service failures is overly narrow. The Commission has previously considered whether a higher cost of capital percentile would be appropriate for UCLL/UBA based on the costs to consumers of under-investment failing to facilitate innovation, as opposed to the costs from major supply issues.[82]

197 Fibre is an emerging technology with dynamic demand, and its regulation is still being determined. As a consequence, what is considered satisfactory at one point in time (e.g. VDSL for some consumers not connected to the fibre network) may not continue to be satisfactory in the future. This requires that investment decisions be similarly dynamic.

198 The FFLAS network will not be 'complete' at the implementation date. The efficient boundaries of the FFLAS network will continue to evolve as the technology and consumer demand develops, because what was the optimal, efficient investment decision for the current UFB boundary at a point in time may no longer represent the optimal investment decision in future. There are areas outside the current UFB boundary that have demand for FFLAS but are not connected.

199 The inefficiency in not serving those areas with FFLAS incurs a cost. That cost is likely to be asymmetric, because:

199.1 Some investments that are adjacent to existing fibre areas would have minimal backhaul costs;

199.2 There are direct network effects associated with 'any-to-any' connectivity, meaning that if Chorus expanded its fibre footprint beyond the areas for which it has been contracted to deliver fibre, there would be some benefit to existing users of the network;

199.3 The costs per premises passed depend on the circumstances but cost per bit are generally decreasing; and

199.4 On the other side of the ledger, the cost to existing users is mitigated by anchor services.

200 Accordingly, a cost of capital uplift would be likely to incentivise marginal investment in growing the network where efficient to do so, which is ultimately for the long-term benefit of consumers.

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[82] Commerce Commission (15 December 2015) *Cost of capital for the UCLL and UBA pricing reviews – Final Decision*, p 67.

201 We also note the much greater policy emphasis on investing in fibre ahead of demand, and incentivising continued efficient private sector investment in incremental deployment of fibre infrastructure. As the Minister said in the Final Decision Cabinet Paper on the review:[83]

> *To achieve these goals, it is important that the regulatory regime is predictable, stable,* ***and that network owners have the right incentives to invest and expand their networks.*** *A regulatory framework that supports efficient private sector investment should decrease dependence on government intervention to drive network upgrades and meet the growing needs of consumers.* [**Emphasis added**]

Percentile uplift applied in Part 4

202 The Commission has set a service-specific cost of capital at an appropriate point above the mid-point estimate of the cost of capital range, for the purposes of setting the allowed rate of return of the providers that are subject to price-quality regulation (i.e. Transpower, EDBs and GPBs). Initially, the Commission automatically applied the 75th percentile to all such service-specific cost of capital estimates, regardless of whether the allowed rate of return is company-specific (individual price path (**IPP**) or customised price path (**CPP**)) or a default price path (**DPP**)

203 Following the High Court judgment, the Commission has maintained its view that cost of capital should be set at an appropriate point above the mid-point estimate though it adjusted the appropriate point along the cost of capital range to 67th percentile, and it concluded:[84]

> *…while we accept that there are differences between electricity lines and gas pipelines, in our draft decision we considered these industries to be similar enough for the same cost of capital percentile to apply. We did not receive any submissions suggesting that a different cost of capital percentile should be applied to gas pipeline businesses. Therefore, on balance, and applying judgement based on the evidence before us, our final decision is that the same cost of capital percentile should be applied to EDBs, Transpower, and GPBs, under price-quality regulation.*

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[83] Minister of Communications (May 2017), *Cabinet paper, Review of the Telecommunications Act 2001: final policy decisions for fixed line communications services*, at p 1 and p 18.

[84] Commerce Commission (30 October 2014), *Amendment to the WACC percentile for price-quality regulation for electricity lines services and gas pipeline services, Reasons Paper*, at [6.51].

204 Further, we note the ranking of the incidence of problems that has been reported in the MBIE's New Zealand Consumer Survey 2018[85] which makes home-based telecommunications services the category with the highest incidence of problems.[86]

205 We did not see any evidence demonstrating that the asymmetric consequences of under-investment in electricity and gas distribution businesses are greater than the asymmetric consequences of under-investment in FFLAS, and we therefore see no reason to apply a higher cost of capital percentile to an electricity or gas distribution business than to Chorus' FFLAS.

206 Based on the above, in consideration of asymmetric consequences of under-investment and high social costs to consumers of under-investment in FFLAS relative to electricity and gas businesses, we expect the Commission will set the service-specific cost of capital for FFLAS at an appropriate point above 67th percentile of the cost of capital range.

Compensation for asymmetric risks Type I

207 We accept the Commission's proposal to provide a similar approach to cover catastrophic risk as is applied in Part 4.

208 However, we note the Commission's view that if it "*decided to recommend the implementation of a price cap in a future regulatory period, we would not expect there to be a full wash-up for demand risk and therefore Chorus would be exposed to demand risk until the next reset following a catastrophic event*", and that it "*would not expect to provide any additional compensation under these circumstances, consistent with our approach in setting the Orion CPP and for DPPs under a weighted average price cap*".[87]

209 If the Commission were to recommend the implementation of a price cap for Chorus' FFLAS, we may take a different view. At this point in time, it would be premature to assess the impact of the approach by the Commission to the Orion CPP and for DPPs on Chorus' ability to earn a normal return and achieve NPV neutrality over the lifetime of its FFLAS assets.

Cost of capital applied for the losses calculation

210 We discuss cost of capital applied for the losses calculation in *Topic 1b: Asset Valuation – financial loss asset*.

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[85] Ministry of Business, Innovation and Employment (May 2019), *New Zealand consumer survey 2018 – summary findings*, p 33.

[86] Commerce Commission (25 June 2019), *Monitoring phone and broadband retail service quality – consultation paper*.

[87] Commerce Commission (21 May 2019), *Fibre regulation emerging views – technical paper*, at [585].

Cost of capital applied to ID

- We agree with the Commission that the publication of an annual cost of capital for ID is not required and alternative options should be considered.
- As Chorus will be subject to PQR, the Commission's proposals would imply the cost of capital used to set prices/revenues will also be used for ID. We ask the Commission to confirm that is the intention of its proposals.

211 We agree with the Commission's view that the publication of an annual cost of capital for ID is not required and alternative options should be considered. The annual cost of capital for ID is not only unnecessary, it can also create erroneous expectations about the workings of the regulatory regime (i.e. that prices will rise or fall with interest rates during a regulatory period), which is not intended by the regime.

212 It is our understanding that, as Chorus will be subject to PQR, the Commission's proposals would imply that the cost of capital used to set prices and revenues will also be used for ID. We ask the Commission to confirm that this is the intention of its proposals.

213 In relation to firms that are only subject to ID regulation, more guidance is needed as to how and when the Commission would derive the return against which it would benchmark the returns of the regulated supplier. We note that under the airports model, the Commission specifies an ID cost of capital a prescribed number of months prior to an airport pricing decision.

TOPIC 3B: TYPE II ASYMMETRIC RISK

Consistency with the overarching FCM objective (i.e. real FCM needs to be achieved over the period from commissioning of the assets until deregulation) to ensure consistency with comparable WCMs. A commitment in the IMs to this effect would promote certainty and align well with commitments communicated in the UFB GPS in relation to the return on and return of capital.

Recovery of Type II asymmetric risk

In dynamic markets where there is an equivalent quality value embodied in the capital value there is a risk regulated suppliers won't recover for Type II asymmetric risk. There needs to be a mechanism to mitigate or compensate for this risk. Restrictive rules that constrain revenues and/or pricing have significant potential to increase the risk if they interfere with recovery over asset lifecycles. Given the complexities within the regulatory framework, the Commission can't 'wait and see' but needs to factor these considerations into its conceptual decision-making at the start of the regime. We suggest this risk should be addressed in the IMs by an ex-ante commitment to the overarching FCM principle over successive regulatory periods.

Solution to the recovery for Type II asymmetric risk

We propose that a number of options, that may be used in combination, should be available to address the different circumstances in which recovery for Type II asymmetric risk might arise. Giving Chorus more flexibility on the revenues, pricing and depreciation are they best tools to address the overarching FCM objective, as these tools align with comparable WCM outcomes. However, this may turn out to be only a partial solution if the demand levels, anchor services pricing, and other regulatory constraints don't allow us to recover our capital costs. So it also makes sense for the IMs to provide for an escrow account, for the possibility that assets could be retained in the RAB for a period of time and a Supplementary Margin to address the consequences of early disruptive change.

Supplementary Margin and escrow account

We have suggested an additional cost of capital uplift and presented options, including funding an escrow account to address asset stranding (ex-post) and/or a Supplementary Margin (ex-ante).

Nature of risk

214 The first step is to clarify the risks that need to be addressed to ensure the overarching FCM objective can be achieved across RPs and the regulatory decisions being made in designing this new regulatory regime.

215 As described by the Commission, Type II asymmetric risks comprise those risks to cost recovery associated with competitive entry, including technology stranding and deregulation. These risks differentiate FFLAS from other Part 4 regulated utilities, where the regulatory framework is premised on an expectation of enduring market power over successive RPs.

216 The FFLAS regulatory framework is more complex than for Part 4 utilities and includes additional constraints that deprive Chorus of some of the tools that we might otherwise use to mitigate these Type II asymmetric risks. In the *Key Economics Principles* section we noted that the range of regulatory constraints on pricing to which we are subject mean that we are unable to adopt the pricing profiles for FFLAS that would occur in comparable WCMs.

217 Anchor services, pricing and access rules, revenue caps and depreciation rules all could interfere with the discovery of information about the pricing and revenue profile that will best secure the return and on and of our capital as we move to the point where demand for FFLAS supports increased capital recovery.

218 Under some scenarios the operation of these regulatory constraints could mean that we do not get a normal return on and of our capital.

219 Professor Yarrow notes that section 166(2) *"adds an additional element of regulatory discretion into the mix and in the absence of information that provides for the development of significant, contingent predictability that means increased regulatory uncertainty"*.[88]

220 The Type II asymmetric risk we face encompasses the cumulative effect of past, present and future regulatory decisions as well as future technology and market developments.

Solutions to Type II asymmetric risks

221 We agree that there is considerable uncertainty about the magnitude, probability and timing of all elements of this Type II asymmetric risk.

222 As we noted in the *Key Economic Principles* section, a key difference from the regulation of Part 4 businesses is the prospect that compensation for any under recovery may be adversely impacted by the duration of regulation. Typically the BBM is applied in contexts where there is time to correct any regulatory errors. However an additional area of uncertainty for us is the prospect that the evolutionary process has moved on and no easy reversal mechanisms are available.

223 These factors all create challenges for the design of mechanisms to remove, or alternatively compensate for, the risk we face.

224 As the Commission notes the two most obvious ex-ante solutions are flexibility around the depreciation profile and/or a cost of capital uplift.

225 We agree with the Commission that flexibility around the depreciation profile is an attractive way to address this issue but note that there is uncertainty about when revenues would support the shortening of asset lives. So this tool on its own may result in under-compensation. In addition, because we built our network ahead of

[88] Professor George Yarrow (16 July 2019), *Questions relating to the regulation of fibre fixed line access services (FFLAS) in New Zealand*, p 17.

demand, there is a need to match our depreciation profile to expected demand, which implies deferring rather than bringing forward cash flows.

226 We like the simplicity of an additional cost of capital uplift but acknowledge this solution has the risk of under or over compensation depending on the duration of the period of regulation. A short period of regulation coming on the back of regulated prices during the build phase could result in significant under recovery whereas a prolonged period of regulation with a high uplift may have the opposite effect.

227 Ex-post there are options associated with RAB retention and/or payments from an escrow fund (funded by an ex-ante surcharge or additional cost of capital increment).

228 We think RAB retention could be a suitable option for some assets for some periods of time but is unlikely to be a complete solution for the reasons identified by the Commission and Professor Yarrow.

229 An escrow fund for asset stranding could be set up in the medium term. Whether, this is a complete solution will depend on the degree to which it is able to provide sufficient funds at the time required.

230 We also note both ex-post measures will create additional regulatory uncertainty unless there is a great deal of clarity around their utilisation.

231 Our suggestion is that a combination of measures is applied with these being measures carefully calibrated to ensure that there is no double counting. The measures proposed by the Commission are not mutually exclusive and, if designed carefully to maintain coherence, there would be benefits in addressing this risk through a range of mechanisms.

232 For example, an escrow account could be used to address the most extreme risk (defined quantitatively such as, if 'x'% or less of the RAB is determined to be unrecoverable) in combination with more flexible depreciation profiles and an uplift for residual risk, as well as maintaining certain asset categories in the RAB (in part or in whole) even if stranded or subject to deregulation.

233 We note the advice of Professor Yarrow that:[89]

> *In the end fixes/patches are just what those words imply, modifications of something that is already substantively constructed, and the really important matters concern what it is that is being adjusted. Whether they are presented as adjustments to the depreciation profile, or to costs of capital, or as provisions for headroom, or as RAB adjustments, or as compensation, is a matter of secondary importance. Indeed, over the lifetime of an investment project, the adjustments made as new information becomes available may appear under different labels at different times and in different combinations. What matter much more are (i) the guiding principles that motivate the*

[89] Professor George Yarrow (16 July 2019), *Questions relating to the regulation of fibre fixed line access services (FFLAS) in New Zealand*, p 23.

adjustments and (ii) ex ante confidence that those guiding principles will be maintained.

234 From our perspective, the most critical point is that the Commission, having rightly identified these Type II asymmetric risks, must address them in the IMs notwithstanding the complexity of the issues. And it is important that these risks are addressed up front to create efficient incentives that will underpin future investment. As previously noted, our suggested guiding principle is a commitment to the overarching FCM objective or that at the point of deregulation of FFLAS, Chorus will in fact have been afforded the opportunity to have received a return on and of its capital since 2012.

Estimating cost of capital uplift

235 The EV Paper indicates a concern that a Supplementary Margin (i.e. cost of a further capital uplift) to address Type II asymmetric risk would be very difficult to estimate.

236 In response to this concern we commissioned Oxera to develop a practical framework the Commission can use to estimate the magnitude of these risks and compensate fibre investors for them.

237 This framework is based on the 'fair bet' framework Oxera developed for Openreach and adopted by Ofcom when regulating the investment BT made in upgrading its copper network to FTTC in 2008.

238 The 'fair bet' principle, shares the same objective as the Commission's core real FCM principle of providing investors an opportunity to make returns equal to the cost of capital, in expected terms. In the presence of downside risks, this means allowing the regulated supplier the opportunity to earn returns in excess of the cost of capital in upside scenarios.

239 This 'fair bet' framework continues to be a core regulatory principle as the new regulatory framework for full fibre is being developed in the UK. Oxera has also considered the 'fair bet' framework in light of the specific features of the FFLAS regulatory framework.

240 Applying the framework to the UFB1 programme tranche of investment, Oxera[90] estimates an uplift above cost of capital would be needed to honour the 'fair bet' principle. This uplift is detailed in Oxera's report and is an initial estimate only, in the time available, Oxera has recommended the next steps the Commission should take to comprehensively implement this framework in the regulatory regime for FFLAS.

[90] Oxera (15 July 2019), *Compensation for asymmetric type 2 risks*, at [4.15].

TOPIC 4: QUALITY DIMENSIONS

We agree with the principles outlined in the EV Paper and the challenge facing the Commission to set a quality IM that balances certainty and flexibility in a dynamic environment. Given particularly the context of the anchor services, and also other instruments, it would be a mistake to set an overly prescriptive quality dimensions IM (**quality IM**).

The price-quality trade-off also implies a close link between the quality standards to which Chorus is subject and the expenditure allowances for the relevant RP.

Approach to setting the quality IM

- Determining the appropriate scope and content of the quality IM requires a detailed examination of the market context and constraints imposed by other instruments. We're moving from a regulatory framework with detailed, product-specific regulation to an incentives based framework. It's important to recognise this new approach and not try to control all aspects of quality in the new framework.

- Our network is new and demand is changing rapidly. Unduly broad and prescriptive quality constraints will prevent us from responding dynamically to evolving consumer preferences. A regulated supplier that can't respond to changing market conditions does not have an ex-ante expectation of a normal return. It's also inconsistent with the purpose statement because it forces us to manage to the quality standards rather than consumer interests.

We recommend the quality IM:

- Establishes a propose/approve model for setting the quality standards for PQR, with flexibility to allow Chorus to propose alternatives to the dimensions and metrics (i.e. what is measured) in the quality IM.

- Sets out binding principles against which any proposed measures (i.e. how the metrics are applied) and standards must be evaluated. The Commission identifies the appropriate principles in the EV Paper and should include facilitating service differentiation and innovation.

- Includes specific quality dimensions under which the Commission may (but does not have to) set measures and/or standards. It doesn't makes sense to require the Commission to set a measure and standard for an aspect of quality which may be controlled entirely by another regulated instrument or market developments.

- Includes binding metrics for each dimension but no specific measures. This will allow measurement of quality dimensions to develop over time while providing certainty as to what is measured.

Quality dimensions

- Specific quality dimensions should be limited to availability and performance. The other five dimensions are managed by incentives arising from the market context or

other regulations. Measures and standards on these dimensions are all that is necessary to achieve the purpose of quality regulation.

- Quality measures and standards should be set as part of a price-quality proposal, as happens with Transpower.
- We agree with the Commission that transitional measures are required for RP1.

Approach to quality dimensions IM

241 We agree with the principles the Commission proposes to underpin the approach to the quality IM:

241.1 Quality regulation should be targeted, proportionate, recognising factors affecting service quality;[91]

241.2 Best practice characteristics should be met by all measures and standards – they should be relevant for the desired outcome, measureable, verifiable, within the control of the supplier and should not place a disproportionate burden on the supplier;[92] and

241.3 Quality matters should be regulated by the instrument best suited to regulate that particular aspect of quality. Regulation should ensure consistency and no duplication between instruments regulating quality.[93]

242 We also agree with how the Commission has articulated the challenge of setting a quality IM that balances certainty and flexibility in a dynamic environment.[94] In meeting that challenge, there are a number of things the Commission should consider in determining its approach to the quality IM. In this part we discuss:

242.1 The role of the quality IM in the new framework including the risk of excessive constraint, differences with the previous regulatory framework and how it should deal with NIPA requirements;

242.2 How to provide certainty to regulated suppliers in a dynamic market where the ability to adapt services quickly is vital;

242.3 How the principles identified above should be incorporated into the quality IM;

242.4 The relationship between the dimensions set out in the quality IM and quality measures and standards under ID and PQDs; and

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[91] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [728].

[92] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [729].

[93] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [697-698].

[94] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [724].

242.5 The proposal to include potential measures in the quality IM.

Role of quality regulation in the price-quality path

243 We agree the role of quality regulation in the PQD is to incentivise regulated suppliers to provide fibre services of a quality that reflects consumer demands. As the Commission notes, fibre consumers make price-quality trade-offs when making decisions about which service is best for them, so "*quality that reflects consumer demands*" should be understood as "*the quality that consumers are willing to pay for*".[95] The price-quality trade-off also implies a close link between the quality standards to which Chorus is subject and the expenditure allowances for the relevant regulatory control period. In other words, delivering consumers' desired price-quality trade-off means that Chorus must be allowed sufficient expenditure to allow it to achieve the quality standards.

244 The role of quality regulation in the PQD must be considered in light of:

244.1 First, the particular commercial context and market dynamics; and

244.2 Second, the other regulatory instruments in the wider fibre regulatory regime that will influence service quality. In the context of these other instruments, quality regulation in the PQD should focus on those aspects best measured on a network-wide basis (i.e. not on an individual service basis).

245 We support a less prescriptive approach to the quality IM than the Commission is proposing. The quality IM should incorporate key indicators of network quality recognising that the anchor services and direct fibre access service (**DFAS**) regulations will perform the task of ensuring service levels are baselined at levels which reflect consumer demands. The question for any potential quality measure is whether it is an indicator of appropriate investment in, and management of, the network; or whether it is a service level which should be committed to on an individual service basis. Only the former is the role of the quality IM.

Commercial context and market dynamics

246 As we pointed out in our submission on the Process and Issues Paper,[96] rapidly changing consumer demands give rise to a particular risk in setting network quality standards because all services are constrained by the standards. Constraining all services can impede service differentiation and innovation.

247 Excessive constraint is inconsistent with the principle of real FCM – a supplier that can't respond to changing market conditions does not have an ex-ante expectation of a normal return. It is also inconsistent with the purpose statement because it forces Chorus to manage to the quality standards rather than consumer interests.

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[95] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [671].

[96] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [214].

248 It was also acknowledged by stakeholders at the workshop of 25 June 2019 that, for RP1, Chorus has a strong incentive to maintain or improve quality in order to encourage fibre uptake. There is therefore little risk that a lack of regulatory constraint would lead to quality degradation in the immediate future. That means there is scope for the Commission to take a pragmatic and incremental approach to developing quality regulation.

249 We are concerned about the possibility of an overly broad scope of quality regulation in the PQD, which is at odds with the nature of BBM regulation and puts service differentiation at risk:

249.1 The new framework is incentives based regulation. Principled quality requirements under this framework should go no further than is required to mitigate any incentive the regulated supplier might have to deliver quality less than what consumers demand. This stands in contrast to the existing framework under Part 2 of the Act, which provides for detailed descriptions and specifications controlling every aspect of service quality. It's important to recognise the move away from this model and not try to control all aspects of quality in the new framework.

249.2 Large RSPs are well placed to make their service requirements known. If we want to sell premium services above the anchor service – which Chorus has incentives to do to achieve the MAR – we will need to provide them with the quality of service they demand. Controlling all aspects of quality is unnecessary.

249.3 FFLAS are largely differentiated by aspects that could be described as quality (e.g. maximum speed, fault restore time). Incorporating network wide quality requirements that effectively equalise a wide range of quality aspects would limit the ability to differentiate services. The CEPA report acknowledges the importance of service differentiation in promoting vibrant retail competition and ensuring that the diverse requirements of consumers can be met.[97]

250 We are also concerned the proposed measures and example standards set out in 'Table 3'[98] indicate an intention to transpose service level requirements under the UFB agreements to the quality IM. While we support maintaining the quality of service provided under the UFB agreements as we move to the new framework, it is not the role of network quality regulation to transpose the existing obligations from the NIPA.

251 It would be inappropriate for the quality IM to simply pick-up all the quality requirements from the NIPA because:

251.1 **Context** – The Commission has recognised the NIPA is an instrument for a particular purpose. It's a commercially negotiated infrastructure construction contract and the requirements are a product of that context. Requirements

[97] Cambridge Economic Policy Associates (CEPA) (1 November 2018), *Quality Dimensions of Wholesale Fibre Telecommunication Services*, at [s6.2].

[98] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [159-160].

from these contracts should not be mechanically transposed into a new regulatory framework simply because they are requirements that exist today.

251.2 **Consequences** – The service levels under the NIPA are subject to specified consequences of default, which were negotiated as part of the commercial agreement. Incorporating these same service levels as a price-quality requirement would substantially increase the potential consequences of default. Failure to comply with a quality standard carries potential for a pecuniary penalty of up to $5 million and, in some cases, may be an offence. It would be inappropriate to incorporate a suite of commercially agreed service levels into regulation while increasing the consequences of default far beyond that which was agreed.

251.3 **Practicalities** – The NIPA sets out service levels that are, by design, duplicated in the UFB reference offer. The NIPA contains a relatively simple mechanism for amending both the UFB reference offer and UFB agreement service levels by agreement through the Telecommunications Carriers Forum (**TCF**) and with the consent of CIP.[99] Obviously regulatory requirements cannot be amended so simply. If requirements, measures or standards overlap across anchor service regulations, DFAS regulations, IMs, ID determinations and PQD, the process for amending a quality requirement in an aligned way is likely to be extremely complicated.

252 Following agreement of amended service levels with RSPs at the TCF Product Forum in February 2018, we prepared a variation to the NIPA and UFB2 NIPA to align the service level schedules (schedule 5 in each case) with the new reference offer. These changes were approved in principle by CIP but formal variations to the NIPA have lagged behind launch of the new service levels to RSPs (effective April 2018). This means the service levels set out in the current version of the NIPA are not a good starting point for setting quality requirements as these are likely to change soon. The variation is currently with CIP for execution and we understand CIP has provided the Commission with visibility of these.

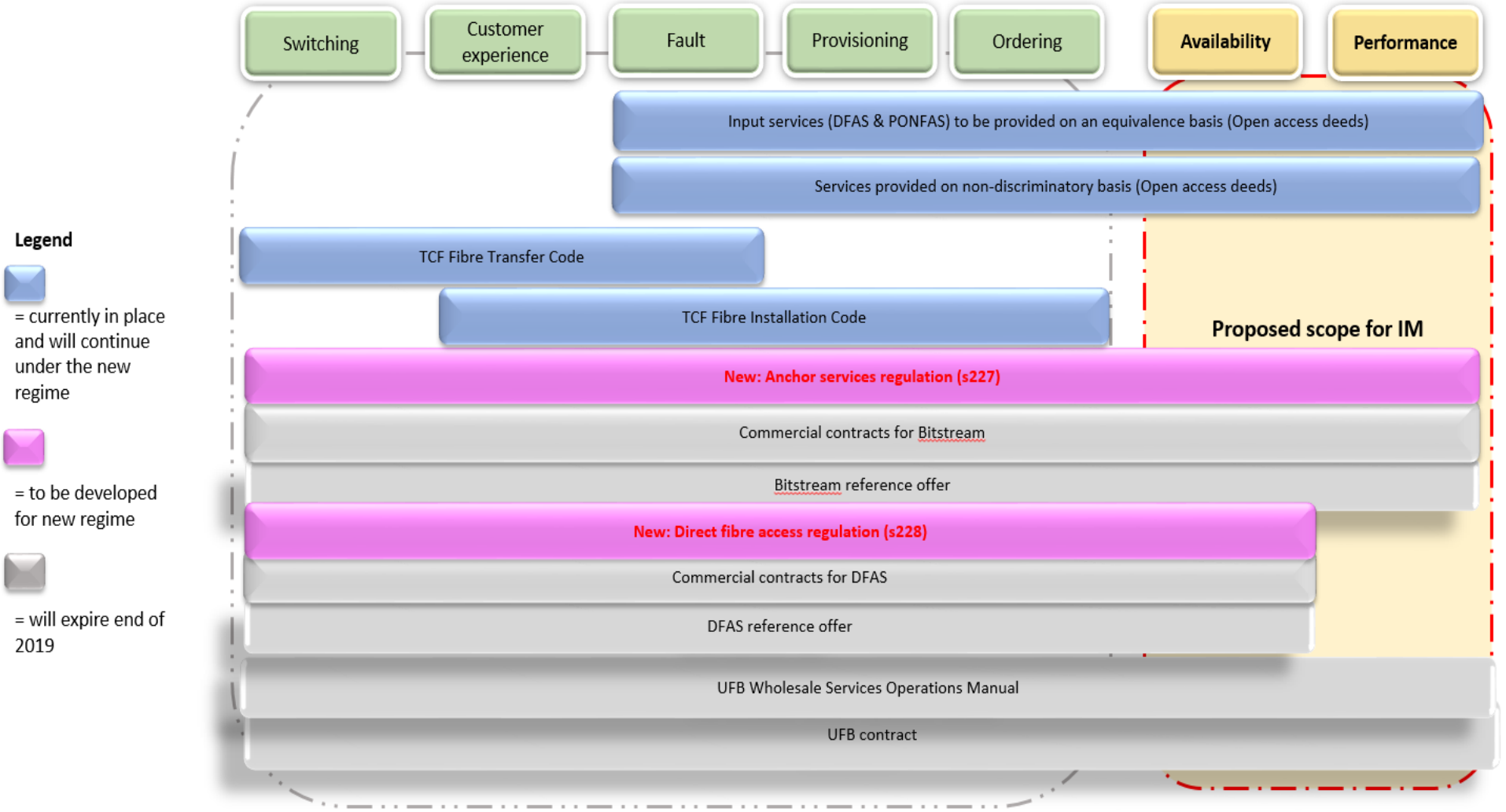
Relationship to other regulatory instruments

253 The Commission has acknowledged the other instruments that constrain and provide incentives around quality. We appreciate the Commission's commitment to aligning the various instruments to deliver a coherent approach to quality regulation in the fibre regime as a whole. A more detailed examination of the various other instruments is required to ensure this happens.

254 It's clear the other instruments in the framework will affect the seven quality dimensions the Commission is proposing to include in the quality IM. We have included a diagram that generally represents the dimensions and the relevant instruments that apply below.

[99] See for example clause 1.2 of Schedule 5 to the NIPA for UFB2.

Proposed quality dimensions mapped against existing and future constraints



255 Of all the instruments influencing quality of fibre services, the most relevant to setting the right scope of quality dimensions is the anchor service regulation. The anchor service regulation is a feature of PQR under Part 6 and has an explicit purpose of operating as a quality constraint:[100]

> *The purpose of anchor services is –*
>
> (a) *to ensure that baseband equivalent voice and basic broadband services are available to end-users at reasonable prices; and*
>
> (b) *to act as an appropriate constraint on the price and quality of other fibre fixed line access services.*

256 The contents of the anchor service regulation from RP1 are essentially certain as the Act requires continuation of existing UFB service descriptions, conditions and prices[101]. These are likely to be reasonably detailed regulations and, as CEPA acknowledged, this obviates the need to specify certain quality requirements through the IM process.[102] Anchor service regulation will leave little room for the quality IM to impose measures and standards that aren't already catered for.

257 In addition to the anchor service regulatory constraints and incentives, there are several other instruments that place further layers of quality constraints across the CEPA dimensions. As shown in the diagram above, these are already in place and operate as key industry commitments that will continue to apply in the new regime.

258 If the Commission maintains its proposal to require all seven dimensions in the quality IM, we encourage the Commission to assess the trade-offs of imposing further layers of constraints and complexity and the resulting cost to the business, and ultimately consumers, against the likely improvements consumers will experience and their impact.

259 For example, a key provisioning service is connecting consumers to a new intact install (meaning they already have fibre installed) fibre service within 1 business day (with 90% carried out within 4 hours) unless a different timeframe was requested and agreed (where the RSP receives a month's free rental if the commitment is not met). This commitment not only represents a reasonable service level commitment, it also exceeds RSP and consumer expectations as around 60% of intact install times are prolonged beyond the service level at the request of the RSP.

260 RSPs, consumers and wholesalers would face a complex 'juggling' exercise to align any new requirements with those already imbedded and well established. The

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[100] Telecommunications Act 2001, Section 208(7).

[101] Telecommunications Act 2001, Part 2 of Schedule 1AA. Ref Clauses 12 and 14 of Schedule 1AA of the Act.

[102] Cambridge Economic Policy Associates (CEPA) (1 November 2018), *Quality Dimensions of Wholesale Fibre Telecommunication Services*, at section 6.2.

Commission will need to carefully consider the likely overall impacts – not just potential incremental change in the service quality but the associated costs and consumer benefits linked to transitioning to new measures and ongoing duplicative reporting requirements.

261 It's also worth reiterating the difficulty of aligning changing requirements if several regulatory instruments overlap – while the NIPA contains a relatively simple mechanism for amending both the UFB reference offer and UFB agreement service levels,[103] it will be far more difficult to align requirements that overlap across anchor service regulations, DFAS regulations, IMs, ID determinations and PQDs.

Role of the quality IM in the context of PQR

262 We agree that the role of the quality IM is to help give regulated suppliers certainty as to how the quality standards under PQR will be set, and how the quality measures that must be reported on under ID will be set.

263 Certainty requires that the quality IM be sufficiently durable across regulatory periods so suppliers can understand how quality standards will be set at the next reset and for future periods. However, certainty has to be balanced against the need for flexibility, as consumer preferences, Chorus' asset management and the needs of the network will all evolve over time.

264 Certainty doesn't necessarily require a high level of prescription. Our preferred approach is that we will propose quality standards as part of our price-quality proposal in the same way Transpower does. Quality and expenditure are causally linked. In order to make a price-quality proposal, including appropriate quality standards, the certainty we need from the IM, can be achieved by:

264.1 Narrowing the scope of potential quality measures and standards by including only those dimensions necessary in an incentives based framework and given our market context to provide some level of predictability around actual requirements; and

264.2 Codifying principles which provide confidence quality standards will achieve their purpose in a way that doesn't impose excessive constraints and jeopardise real FCM.

265 This certainty can be achieved in a way that ensures the Commission has flexibility to set quality measures and standards which, together with the other instruments in the framework regulating quality, ensure regulated suppliers have incentives to supply fibre services of a quality that reflect consumer demands.

266 The Commission has suggested adopting CEPA's 'level 3' proposal. We agree that the IM should address principles, dimensions and metrics. But we do not agree that including measures in the IM strikes the right balance between certainty and flexibility.

[103] See for example clause 1.2 of Schedule 5 to the NIPA for UFB2.

We would characterise our preferred approach as 'CEPA 2.5'. We discuss this further below.

Content of the quality IM

267 To strike the right balance we propose the quality IM includes:

267.1 Rules and processes for setting quality standards and quality measures for ID (which could be addressed in the quality IM or in the rules and processes IM). We support a propose/approve approach that allows Chorus to propose quality standards and measures based on consultation with consumers. Chorus should also be able to propose alternatives to the dimensions and metrics in the IM if those alternatives would better achieve the section 162 purpose statement.

267.2 Principles that the Commission must apply when evaluating a price quality proposal and determining quality standards and measures. The appropriate principles are identified in the EV Paper and should include facilitating service differentiation and innovation.

267.3 Specific quality dimensions under which the Commission may (but does not have to) set measures and/or standards. A requirement to set measures and standards under all dimensions is not practical for an IM designed to be enduring in a rapidly changing market (see discussion below). A more flexible approach allows the Commission to ensure a proportionate approach that best meets the purpose of the Act.

267.4 Binding metrics but no specific measures.[104] This will provide greater certainty about what a quality dimension is intended to measure, while permitting flexibility to develop methodologies for measuring performance against that metric.

Process for setting quality standards and measures

268 As set out in our submission on the Process and Issues Paper[105], quality and expenditure are causally linked. So the process for setting quality measures and standards needs to align with the process for setting expenditure plans. We support a propose/approve model for developing both expenditure plans and quality measures and standards. The advantage of a propose/approve model is that, like Transpower, Chorus is best placed to engage with customers and propose quality standards that will achieve the section 162 purpose statement.

269 We would anticipate that our proposals will take the dimensions and metrics in the quality IM as their starting point. However, Chorus should be permitted to propose

[104] We adopt the Commission's distinction between "metrics" and "measures" in paragraph 734 of the EV Paper.

[105] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [222].

alternative quality standards where it can demonstrate that the alternative would better meet the section 162 purpose statement.

270 As noted above, we don't support consultation being included as a quality dimension in the quality IM. But it should form part of the process of determining quality measures and standards.

271 We consult to understand what our RSPs and consumers want. Any mandatory requirement would not add to this and risks preventing us responding to changing market demands. We reiterate our previous submission that different RSPs have different incentives – e.g. those buying unbundled layer 1 products and those buying inputs to support mobile networks to compete with fixed access. This dynamic will occasionally produce perverse incentives as to the desirable quality requirements (and consequent expenditure) on regulated suppliers.[106]

272 We support consultation requirements on our price-quality proposal, which will include quality measures and standards. This is the right time to talk to stakeholders about their quality requirements and the price/quality trade-offs involved.[107]

273 The quality IM should permit (but not require) the Commission to set quality measures and/or standards under each of the specified dimensions where doing so is necessary to achieve the purposes of quality regulation and consistent with principles in the IM. If the scope of quality dimensions specified goes beyond availability and performance, any other dimensions should be restricted to measures under ID.

274 The Commission notes it proposes to "*apply all of the quality dimensions set out in the IM to ID and PQR*".[108] We interpret this to mean the quality IM will require the Commission to set measures and standards for each dimension of quality specified in the IM.

275 If our interpretation is correct, the proposal seems at odds with the reality of a rapidly changing market. This would significantly increase the risk quality standards will result in excessive and undesirable constraints on suppliers subject to PQR. It would impose a requirement to set measures and standards regardless of whether these are necessary to achieve the purposes of quality regulation and without regard to the constraints imposed by other regulations or market forces. This is inconsistent with the principle of regulatory best practice the Commission identifies as appropriate.[109]

276 Over time, market dynamics and consumer demand will change. The Commission has suggested that the depth of quality regulation could be reduced as competitive

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[106] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [224].

[107] See below, Topic 5: Expenditure, under the heading "Consultation".

[108] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [728-729].

[109] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [728-729].

constraints take over. Rigidly requiring setting of measures and standards may make it challenging for the quality IM to account for the possibility of increased competition.

277 Other regulatory instruments may also significantly change the constraints on regulated suppliers. These developments could all change the necessity and value of quality measures and standards relating to a particular dimensions. There may also be situations where it would be inappropriate to set a compliance standard for a dimension of quality under PQR, but it would be valuable to measure that dimension in the interest of transparency under ID. The proposed approach doesn't appear to account for this possibility.

278 Certainty can be achieved by setting out specific dimensions and by making it clear that measures and/or standards will be set for those dimensions necessary to achieve the purposes of quality regulation. It doesn't make sense for an IM to require measures and standards even where they are unnecessary in the name of certainty.

279 At the workshop on 25 June 2019 the Commission elaborated on its proposal by presenting three options for how the quality IM could relate to PQR and ID. The Commission articulated the options as:[110]

279.1 All the quality dimensions become both quality standards in PQR and quality measures in ID;

279.2 All the quality dimensions become either quality standards in PQR or quality measures in ID; or

279.3 Some or most of the quality dimensions become either quality standards in PQR or quality measures in ID

280 Options 1 and 2 both seem to involve compulsory setting of measures and/or standards, which we do not support for the reasons above. Our view is:

280.1 The quality IM should not require every dimension to become a standard or measure;

280.2 If the set of quality dimensions is limited to availability and performance, as we think it should be, then measures under ID and standards under PQR should be able to be set for both dimensions; and

280.3 If the set of quality dimensions is expanded beyond availability and performance, standards under PQR should be able to be set for availability and performance only with measures under ID possible for all dimensions.

[110] Commerce Commission (25 June 2019), *Slide pack for Fibre Emerging Views workshop*, p 58.

Binding principles

281 The Commission has proposed an approach to the quality IM which broadly aligns with CEPA's 'level 3' proposal. The Commission notes this "*would involve setting out a list of quality dimensions, as well as a list of possible quality measures linked to the dimensions, in the IM determination*".[111]

282 The Commission doesn't state whether it is also proposing to include explicit principles in the quality IM to govern the setting of measures and standards under the specified dimensions. Including principles in the quality IM was part of CEPA's level 3 proposal.[112] We agree with CEPA the Commission's proposed approach should include binding principles against which proposed quality standards and measures should be evaluated.

283 If correctly formulated, principles can significantly increase certainty for regulated suppliers while preserving flexibility. We agree with the principles the Commission has identified for setting quality measures and standards in the EV Paper. We support their inclusion in the quality IM.

284 As we noted in our response to the Process and Issues Paper,[113] the key principles are that measures and standards must:

284.1 Recognise the other regulatory obligations to which regulated suppliers are subject and not duplicate any obligations or measure/constrain matters that are measured/constrained elsewhere;

284.2 Have a clear relationship to a specific objective of quality regulation. For example, measures and standards should:

(a) Ensure incentives to supply services that reflect consumer demands;

(b) Ensure appropriate management of the regulated asset; and

(c) Facilitate innovation and differentiation by the regulated supplier;

284.3 Reflect the price-quality trade-off that consumers prefer;

284.4 Be supported by an expenditure allowance that enables Chorus to achieve the quality standards; and

284.5 Reflect regulatory best practice. Measures and standards should be specific, measurable and within the control of the regulated supplier.

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[111] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [663].

[112] Cambridge Economic Policy Associates (CEPA) (1 November 2018), *Quality Dimensions of Wholesale Fibre Telecommunication Services*, [description of rules on p11 and table at 5.2.1].

[113] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [219].

Quality dimensions

285 The Commission has proposed the quality IM specify seven dimensions based on the product lifecycle construct outlined in the CEPA report. We agree with the focus on output measures of quality.

286 The proposed dimensions are more than sufficient to encompass everything required to ensure the purpose of quality regulation is achieved. In fact, the dimensions noted, if applied to quality standards in the PQD, would impose constraints beyond what's necessary to achieve that purpose.

287 We understand the dimensions in the quality IM will cover measures under ID for all regulated suppliers in addition to standards in the PQD for Chorus. We also understand the proposal is not to include standards in the quality IM.

288 However, we remain concerned that the proposed contents of the quality IM could result in a PQD which imposes excessive constraints which would duplicate, and potentially conflict with, constraints imposed by other quality regulation. There is considerable risk in addressing the question of quality regulation too narrowly without considering in appropriate detail how each proposed dimension operates in the context of other regulatory constraints.

289 We appreciate that the Commission has considered generally how the quality IM interacts with the regulatory and fibre market context and acknowledged that everything needs to work together.[114] This should be taken a step further with each proposed dimension examined to determine the extent to which it is controlled or influenced by other regulation or market context.

290 In our previous submission, in commenting on CEPA's six proposed quality dimensions we said, given the number and scope of other instruments already regulating quality, the IMs should only focus on the end of the product lifecycle: specifically availability and performance.[115] We continue to believe that availability and performance are the only dimensions which should be reflected in the quality IM:

290.1 **Availability** is a key indicator that the regulated supplier is investing appropriately in the operation and maintenance of the network. This is on the basis that failure to invest appropriately will manifest itself as a decrease in service reliability. Availability is also better assessed on average rather than on an individual access line basis as would be the case under an SLA.

Availability forms the basis of the quality measures and standards for electricity distribution and transmission under the Part 4 regulatory framework. It is also a function of fault incidence so would provide an incentive to reduce the

[114] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [670-723].

[115] Chorus (21 December 2018), *Submission in response to the Commerce Commission's invitation to comment on its proposed approach to the new regulatory framework for fibre dated 9 November 2018*, at [209-211].

frequency of faults and obviate the need to include faults as a separate dimension of quality.

290.2 **Performance** measures such as utilisation, frame delay and variation indicate that the regulated supplier is investing appropriately in the capacity of the network and supporting the key consumer value proposition of consistent performance. Any underinvestment in network capability is likely to manifest as a decrease in performance measures.

Performance measures like utilisation are better assessed on average rather than on an individual access line basis as would be the case under an SLA. Other elements of performance (such as 'speed' noted in the CEPA report) will be better set out in service descriptions or SLAs under the wholesale services agreement (**WSA**). This is necessary to ensure there is scope to differentiate layer 2 services.

Currently under the NIPA any failure of the service to meet the required performance standards counts as the service being unavailable for the period in which the standard is not met. This is useful as it avoids the need to set aggregate measures to act as absolute performance standards measured across the network. This approach should continue under the new framework and the Commission should consider including this in the quality IM.

291 We also do not think consultation should be a dimension under the quality IM. We agree consultation on quality requirements is important and we support consultation requirements on our capex plans prior to submission of our price-quality proposal which will include consultation on quality standards (discussed in *Topic 5: Expenditure* section). There will also be public consultation in relation to any changes to anchor services or DFAS regulations. This means there will be substantial formal consultation requirements in relation to those parts of the framework that will set our quality requirements.

292 A regulatory requirement to consult before launching or changing services would potentially delay response to changing demands and impede getting innovation to market by creating a compliance check-box. It would exacerbate the risk of excessive constraint.

293 As discussed above, if the Commission remains of the view the scope of dimensions in the quality IM needs to be wider than availability and performance, then we would urge the Commission to set the seven proposed dimensions as those under which measures can be set for ID, but restrict standards in the PQD to availability and performance.

294 Finally, we propose that the quality IM permits Chorus to propose standards within any of these dimensions, but not require that Chorus propose standards for every dimension. Similarly, we think the IM should preserve for the Commission a discretion to set standards or measures only for a subset of the dimensions in the quality IM.

Metrics and measures in the IM

295 The quality IM should include binding metrics but not measures. This approach best balances predictability and flexibility. If the Commission proposes to include measures

in the quality IM it might be necessary to also include exemptions in the IM or explicitly state that the ID and PQDs may set out exceptions.

296 The Commission has proposed including a list of possible measures linked to each dimensions in the quality IM. These measures would be non-binding – i.e. the Commission would not have to apply these measures and could employ measures not set out in the IM.

297 The Commission has presumably proposed this approach to give an indication of appropriate measures without risking inflexibility. However, we are concerned that this approach does not increase certainty. It may instead invite argument about whether the included measures are appropriate or sufficient for any ID or PQD.

298 A better approach would be to include binding metrics but no measures in the quality IM. Here we are using the distinction between metrics and measures set out in the EV Paper.[116].

299 Including binding metrics without measures would substantially increase certainty by narrowing the scope of potential measures but would allow the measurement approach to evolve and be refined over time. As discussed above, the quality IM should nonetheless afford Chorus the option of proposing alternative quality standards if it can demonstrate that the alternative would better meet the section 162 purpose statement.

300 The Commission has correctly noted specific exemptions, caveats and rules in relation to measures and standards will be necessary.[117] These are particularly important for any measures against which a compliance standard is set. Exceptions are at a level of detail best included in ID and/or PQDs.

301 If the Commission proposes to include measures in the quality IM, exemptions or normalisation mechanisms would need to be included to ensure that compliance with the standards is reasonably within Chorus' control. The IMs should at least be explicit that the ID and PQDs may set out exceptions. This could give rise to some complexity and is another reason why it would be better to include metrics in the quality IM but leave the detail of measures (including exemptions) to the determinations.

302 As set out above, availability and performance are the appropriate dimensions to include in the quality IM. Other dimensions are controlled by incentives arising from the commercial context or other regulatory instruments. We propose the following binding metrics for the dimensions of availability and performance:

[116] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [734].

[117] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [738 and 740].

	Dimension	Potential metric
1.	**Availability** – Covers the availability of the service	The binding metric for the availability dimension should be **average downtime** reflecting what we currently measure under the NIPA. We currently report to CIP on average downtime under the NIPA. There are some issues with how the measure is described in the NIPA, which would need to be addressed before this is incorporated in ID or PQD. For example, the measure sets out average down time per end-user but we can't tell how many end-users are on any access line so we measure and report average downtime per access line. However, this reporting provides a good foundation for reporting on availability under the new framework.
2.	**Performance** – Covers the service's technical performance, for example speed or management of congestion	The binding metric for the availability dimension should be **utilisation**. Currently assessment of performance is measured by port utilisation on the fibre aggregation network and use of reference probes on a sample set of lines which measure frame delay (latency), frame delay variation (jitter) and packet-loss. This regime[118] is likely to be more complex than is required to achieve its purpose. Utilisation is a good measure and the sampling of reference probes adds cost but arguably little value (i.e. if utilisation is managed then frame delay, frame delay variation and packet loss are very unlikely to be an issue). We are open to views on the value of continuing with this approach on the understanding that any costs will ultimately be reflected in pricing. But the benefits of this measurement approach are unlikely to justify the costs and the Commission should identify utilisation as the appropriate metric of performance in the quality IM.

[118] Crown Infrastructure Partners, *Layer 2 Performance Measurement and Reporting Regime*, available at: https://www.crowninfrastructure.govt.nz/wp-content/uploads/2011/12/UFB-Performance-Management-and-Reporting-17-Nov.pdf

TOPIC 5: EXPENDITURE

High level features

- We agree that the Commission should ensure that expenditure allowances provide for efficient levels of investment, while mitigating the risks from over-forecasting. The Commission recognises there are risks inherent in Chorus' capex forecasts, given we have an incomplete network and uncertain demand uptake. These issues are unique and need to be accommodated within the Part 6 framework, including by designing IMs with a menu of options for addressing different types of uncertainties.
- Expenditure and quality standards are inextricably linked under a revenue cap. That means the Commission must have regard to the requisite quality standards when considering our price-quality proposals – and conversely to the cost effectiveness of services when setting quality standards.

IM approach and processes

We agree that:

- The Transpower capex IM provides a reasonable starting point for developing information requirements, process and timeframes for a fibre capex IM;
- Regulated suppliers should be required to have price-quality proposals independently verified before submitting them to the Commission; and
- The Commission should consult with stakeholders during its evaluation of a regulated supplier's price-quality proposal.

Regulated suppliers should be required to engage with stakeholders to understand consumer demands during the development of price-quality proposals.

Evaluation criteria

- An expenditure objective is useful starting guidance for price-quality proposals but will need to be interpreted and applied in a way that fits our context.
- We agree with the Commission's view that different types of capex require different evaluation criteria to be applied, depending on materiality, timing of expenditure and nature of the investment. We also agree that different evaluation criteria can apply to different types of capex to address the characteristics of that type of expenditure.
- We support application of the proportionate scrutiny principle.

Incentive mechanisms

- We are keen to understand more about how a 'simplified' open Incremental Rolling Incentive Scheme (**IRIS**) would work in practice. We're also interested to explore a capex incentive mechanism, which could work alongside the open IRIS.

303 We agree the Commission's aim in designing a capex IM for Chorus, and assessing our price-quality proposals, should be to ensure efficient levels of investment, while mitigating the risks from over-forecasting. We also agree there are issues unique to fibre regulation that will impact the development and assessment of our price-quality proposals. We support the Commission's proposal to engage further on these issues.

304 The Commission recognises there are risks inherent in capex forecasts, and there are particular risks for Chorus that aren't present in Part 4, including:

304.1 Building ahead of demand;

304.2 Demand/uptake uncertainty;

304.3 Interactions with legacy networks;

304.4 Rapidly changing technology and demand; and

304.5 A shift to regulatory forecasting for the first time.

305 We know FFLAS uptake will be a substantial driver of our price-quality proposal, yet uptake levels over RP1 will not be easy to predict with certainty. For the most part, this is due to demand drivers, which experience has shown are difficult for us as a network supplier to fully anticipate. Network peaks for events such as the Rugby World Cup and Fortnite downloads drive accelerated demand at a scale that doesn't have to be contended with in Part 4. External factors, such as new services or uses for the internet will drive very significant changes in bandwidth demand. For example, in the coming years we are expecting a significant increase in cloud-based gaming and virtual reality services and the rollout of 8K broadcasting services.

306 Similarly, our network transition from copper to fibre will potentially have step-change impacts on our FFLAS expenditure. These issues are unique to us and need to be accommodated within the Part 6 framework, including by designing mechanisms that can address uncertainties.

307 As is obvious by the form of PQR, expenditure and quality standards are inextricably linked under a revenue cap. That means the Commission must have regard to the requisite quality standards when considering our price-quality proposals – and conversely to the cost effectiveness of services when setting quality standards.

IM approach and processes

308 We support the Commission's intention to follow the approach in the Transpower capex IM, which doesn't prescribe specific standards or asset management approaches, but seeks information on the approaches and methodologies used by the supplier to develop price-quality proposals, and describes the criteria used to evaluate these.

309 Having principled IM rules will allow requirements to be more aligned with the way our business operates (for example, aligning completion of regulatory expenditure templates with ways we record information in our business context - which may develop over time). A more prescriptive approach to IM rules could constrain how the

regulatory framework addresses future scenarios and how we develop our programme for maintenance and renewal of the fibre network.

310 This approach should apply to both capex requirements in IMs and opex requirements that the EV Paper suggests may be set in information requirements. We would prefer to have opex requirements set 'up front' in the price-quality proposal process rather than on an ad hoc basis at each reset. We need early visibility of opex information requirements to plan and prepare our proposed opex information, within the timeframes for the full price-quality proposal.

Consultation

311 We agree with the Commission's view that the degree of any consultation required (prior to submitting the proposal and during evaluation) should be scaled to the materiality of the expenditure. Consultation should also be effective and efficient by tying together requirements to engage on quality standards and expenditure in the proposal. This should enable stakeholders to be informed of the trade-offs between quality standards proposed and investment required to meet those standards.

312 We discuss in the *Transitional Arrangements* section a transitional approach for consultation obligations on Chorus. For the enduring IMs, we support an obligation for Chorus to have a plan to engage with stakeholders to understand consumer demands during the development of our price-quality proposal. We agree this can enable better investments, through understanding consumer needs.

313 We caution against a prescriptive approach to consultation methods and timing, as methods for Part 4 suppliers may look different from what is appropriate for fibre given that:

313.1 Fibre suppliers have better information than energy firms on consumer preferences, as it's revealed through the price-quality choices they make across differentiated products; and

313.2 Our approach to consultation will have to take into account the fact that some of our RSP customers compete with us in some respects.

314 For engagement on consumer preferences to be effective and efficient, Chorus should have an obligation to have an engagement plan. That plan could:

314.1 Set out the timing of engagement, tying together both quality and expenditure setting, early enough to allow meaningful input;

314.2 Develop ways of helping stakeholders understand the trade-offs for quality and expenditure, so we can be informed of how they value different aspects and what consumer preferences are to inform our proposals;

314.3 Set out how we intend to incorporate feedback and engagement in the process; and

314.4 Provide clearly defined outcomes and success measures for engagement we undertake.

315 Having an obligation to provide a consultation plan will enable us to:

315.1 Undertake meaningful engagement on different price-quality proposals, which may require different approaches to informing stakeholders and eliciting information on consumer preferences. It is important stakeholders are as informed as possible so they can have the opportunity to consider what they think and want;

315.2 Find methods to best seek input and assist a smooth transition into the new fibre regulatory regime. Appropriate methods may change over time as technology and consumer needs develop.

315.3 Manage our commercial and market sensitive information, where some stakeholders are potential competitors in some respects.

315.4 Develop our approach to engagement over time. We can learn from our consultations, and consider how they can be enhanced to help us develop our price-quality proposals over time.

316 We also support the Commission's consultation requirements on evaluation of price-quality proposals and prior to the PQD. We support the Commission leading the consultation on evaluation of price-quality proposals, utilising an IV report to assist in identifying issues for consultation.

317 The Commission's evaluation of our obligation to have a plan to engage with stakeholders during the development of the price-quality proposal should focus on how we take account of stakeholder input – including consumer needs and preferences - in our expenditure-setting process. The weighting given to this consideration should not be significant, at least to start.

Use of an independent verifier

318 We support requirements for IV in the capex IM on an enduring basis, and agree with the Commission's views on the benefits. We strongly support the view that the IV process could be tailored to reflect the materiality of the price-quality proposal. This recognises the need to be efficient as the IV process can be costly and time consuming.

319 We prefer the IV requirements in IMs to be modelled on the Transpower IV approach rather than the more prescriptive IV requirements in the CPP IMs, and think there should be a requirement for us to agree terms of reference (**TOR**) for IV with the Commission. Having prescriptive requirements within the IMs (similar to the CPP approach), is not appropriate as it may be necessary to tailor the scope and nature of the IV approach for the price-quality proposal prior to each RP as the context evolves. The Transpower IV approach is more appropriate for a supplier making a new price-quality proposal every 3-5 years, as it allows flexibility to tailor IV for each proposal and the stage of the supplier's asset management development.

320 IM requirements for IV should require:

320.1 Chorus to conduct IV of our price-quality proposal (or a material part of the proposal);

320.2 Agree a TOR for each IV, in consultation with the Commission;

320.3 Submit the IV report with our proposal to the Commission; and.

320.4 The Commission to consider the IV report in its evaluation of the proposal, and in its consultation with stakeholders on the proposal.

321 We understand there are likely to be audit requirements for the price-quality proposal prior to its submission to the Commission. In addition, the Commission should consider how the new regulatory regime is best implemented so that financial and regulatory years are set to allow for efficient operations and auditing requirements. We need clarity as we develop our price-quality proposal of how regulatory years (revenue control year and disclosure year) are to be defined, and how they will relate to our financial year and price setting timeframes.

Form of price-quality proposals

322 We agree that the issues unique to fibre regulation will impact the development and assessment of our price-quality proposals. We support the Commission's intention to engage further on these issues as its thinking develops.

323 We do know at this point that uptake of FFLAS will be a substantial driver of our price-quality proposal and allowance - yet uptake levels over RP1 are not easy to predict at this point on the network build/update curve. Similarly, our network transition from copper to fibre has the potential to substantially impact our FFLAS expenditure. These issues directly reflect our business and our new (and incomplete) network and need to be accommodated within the Part 6 framework, including by allowing sufficient mechanisms with options for addressing uncertainties as we discuss below.

324 The Commission queries[119] whether it should require price-quality proposals to cover capex that is common to FFLAS and copper services, or only capex that relates to FFLAS. As Part 6 relates to regulation of FFLAS, the capex IM should properly require capex that relates to FFLAS to be included in a price-quality proposal.

325 The onus will be on us to demonstrate that our proposed FFLAS expenditure is prudent and efficient. In doing so, we will sometimes need to include non-FFLAS expenditure to demonstrate how we developed the FFLAS component and to justify the FFLAS expenditure. But that doesn't justify an obligation to include copper in our price-quality proposal. In many cases, copper won't be relevant to our proposed expenditure. Where non-FFLAS expenditure is inherent in the process for deriving the FFLAS amount, it will be included in our price-quality proposal. That will change over time, and depend on the methods used to compile our price-quality proposals.

326 The Commission has also asked whether it is appropriate for the Commission to approve a regulatory allowance (via the capex IM process) for assets that are competitive with other services that are not regulated. The Commission suggests

[119] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [824.1].

there is a relationship between this issue and the potential for deregulation under section 210 of the Act.[120] In fact these are separate issues, as the Commission's role in approving capex only arises in relation to regulated services.

327 It is likely that Chorus will propose expenditure in relation to assets that face competition (at least to some degree). However, in our view no additional or novel evaluation criterion is required to assess expenditure in this scenario. The orthodox expenditure objective is sufficient. In the Part 4 context, the application of the expenditure objective requires that regulated suppliers demonstrate that the proposed expenditure is supported by a business case. Where assets face competition, that business case will necessarily have regard to the market conditions in which the services are provided, including the existence of competition. If the expenditure is supported by a business case, the Commission should approve it. But the assessment should be limited to an evaluation of *Chorus'* business case for the expenditure. It would not be appropriate for the Commission to engage in a wider cost-benefit analysis along the lines of the net market benefit test in Transpower's capex IM.

Assessment of price-quality proposals

328 We agree that the Part 4 framework for approving capex under the IPP, supplemented by some rules and processes used in the CPP regime, is a sensible starting point for consideration and approval of Chorus' price-quality proposals. And we support the Chorus capex IM:

328.1 Containing mechanisms that allow us to apply for additional expenditure if the need arises; and

328.2 Enabling the Commission to assess different types of expenditure according to the principle of proportionate scrutiny – similar to the process that applies under the Transpower capex IM.

329 At the Fibre Emerging Views workshop the Commission signalled[121] it was keen for the industry to submit on the merits of the IPP and CPP regimes. The IPP regime is a good starting point because it's the closest comparator for FFLAS regulation and provides rules and process requirements that allow an ongoing sequence of assessments and resets that are bespoke to a regulated supplier (that is, there is no default path as a counterfactual). From there, looking to CPP rules is also pragmatic. That regime provides some additional ideas, and the Commission should be able to pick the best of both regimes as its starting point for FFLAS regulation.

330 It's worth noting that the IPP regime evolved from legacy Electricity Commission rules that were converted in a tight timeframe into an IM. While bigger deficiencies have been altered (and mechanisms added) through IM reviews, the framework has never had a full rebuild. Also, IPP mechanisms have evolved to address the specific investment challenges of electricity transmission – including the market context, and the engineering challenges of large transmission upgrade and replacement

[120] Commerce Commission (21 May 2019), *Fibre regulations emerging views: technical paper*, at [824.2].

[121] In the Capital Expenditure Input Methodology session.

projects. These are different from our telecommunications context and investment profile.

331 In contrast, the CPP operates like a one-off business case. The rules are designed to work with a one-off application from a supplier to move off a default path. This involves a different relationship between the Commission and the regulated supplier to that which exists for Transpower and will exist for us, which is more like a rolling process for guiding cost, quality and capability over time.

Dealing with risk and uncertainty

332 The primary way in which forecast uncertainty and risk is dealt with under the Part 4 regime is to provide:

332.1 Flexibility for the regulated supplier to reprioritise and refine its plans through capex substitutability;

332.2 General reopeners for large, unpredictable, low-likelihood events – e.g. catastrophes and major new requirements;

332.3 Incentive mechanisms that share risk and reward, noting these mechanisms may need to be transitioned in over time; and

332.4 Wash-up or pass-through mechanisms to address macro uncertainties outside the supplier's control - e.g. CPI wash-up, levy pass-through.

333 Beyond those mechanisms, the question is whether there are other classes of uncertainty that would merit further mechanisms. There is a balance for the Commission to strike here, as uncertainty mechanisms can de-risk PQDs for both suppliers and consumers.

334 Without mechanisms of this type, there is a risk of a regulated supplier being given too much or too little headroom – leading to either windfall gains (even after the sharing of savings via incentive mechanisms) or projects that would otherwise been of value not being pursued. However, adding too many mechanisms can detract from certainty for both regulated suppliers and consumers, as well as detracting from a regulated supplier's flexibility to reprioritise expenditure within a RP.

335 The Part 4 IPP regime also contains project approval mechanisms that are used for large, binary uncertainties. These mechanisms are used to prevent projects being prematurely or artificially forced into a price-quality proposal for a certain RP, which would result in a large risk of windfall gain or shortfall, depending on what later information showed about the need, solution or cost. The mechanisms the Commission refers to allow decisions to be deferred to a time where the uncertainty around a project has been reduced.

336 At this stage, we know that locking in a fixed allowance for a RP is unlikely to work – leaving too much risk of windfall gain or material shortfall to us. Neither is a good outcome for consumers, and in fact the latter would cause Chorus to not invest in initiatives that would have provided consumer benefit.

337 The speed of copper to fibre migration, and levels of uptake and traffic growth are examples of uncertainties that we expect will impact our price-quality proposals, but are not yet well quantified. We will continue to develop our understanding of the materiality of such uncertainties as we work towards preparing our first proposal.

338 At this point in the design of the new regime, mechanisms that allow us to access additional capex within a RP will be an important feature of the capex IM. We note that the uncertainties we expect to face are different to those faced by Transpower and other Part 4 suppliers (who have fully built networks), so we expect that the mechanisms needed in a Part 6 capex IM may be new, and unique to Chorus.

339 There may be some event-driven uncertainties (such as fibre spend stemming from copper withdrawal or what speed PSTN transition occurs at) that could be addressed with pre-approved allowances that are released automatically when certain conditions are met (e.g. $x capex per connection to be transitioned off copper). There are also volume or rate-driven uncertainties (such as fibre uptake) that could be addressed with pre-approved amounts that are released based on actuals (e.g. $x capex per 1000 new connections). Both are examples of mechanisms that would preserve incentives for efficient cost (and preserve incentive to promote uptake), but remove the risks inherent in forecasting uncertainties.

340 We would welcome further engagement with the Commission on appropriate mechanisms, and suggest this is an area suitable for a focussed, Commission-led workshop.

Evaluation criteria

341 The Commission refers to use of an expenditure objective to evaluate expenditure, similar to the requirement set in the IM for EDBs applying for a CPP, and describes different evaluation criteria – including Part 4 mechanisms – that it could use to assess price-quality proposals and approve appropriate expenditure allowances.

342 In general, use of a generic expenditure objective would provide useful guidance for price-quality proposals, verification and evaluation. There is scope for the way the Part 4 objective is interpreted and applied in practice to fit Chorus' context, such as the use of different language or different techniques to recognise that there are more dimensions to FFLAS than to the single, undifferentiated service that an EDB delivers. For now, we note that we don't view a cost-benefit analysis under an expenditure objective to be equivalent to the net electricity market benefit test that applies to Transpower. Under Part 6, a cost-benefit analysis for Chorus should be limited to an assessment of our services.

343 We agree with the Commission's view that different types of capex require different evaluation criteria to be applied, depending on materiality (and level of scrutiny), timing of expenditure and nature of the investment – which are addressed within the expenditure objective. We also agree that different evaluation criteria can apply to different types of capex to address the risk level of that type of expenditure. For example, demand-driven investment is uncontroversial, so assessment can focus on efficiency rather than whether the need is well established.

344 We support the Commission's view that a major capex regime (which applies to Transpower) is unnecessary because the capex projects we will undertake are of a different scale and nature to Transpower's projects.

Proportionate scrutiny

345 The Commission should apply the principle of proportionate scrutiny to our proposed expenditure, as it does when assessing price-quality proposals under the Part 4 framework.

346 In accordance with this principle, committed UFB spend should be subject to a different level of scrutiny to general expenditure, on the basis that we are contractually obliged to incur UFB expenditure, and the amount of that expenditure is also effectively determined by our contractual obligations – which were the result of competitive tender.

347 As such, in relation to UFB expenditure:

347.1 The evaluation criteria for forecast expenditure should include explicit reference to the fact that agreements between Chorus and CIP require particular roll out and management of the UFB network; and

347.2 The Commission should acknowledge that the principle of proportionate scrutiny warrants limiting scrutiny of UFB expenditure to an assessment of whether the expenditure is prudently and efficiently incurred in light of NIPA obligations.

Reopener mechanisms

348 We agree that reopener mechanisms should be available to address events that can't be managed by in-period substitution or anticipated in advance, including:

348.1 Catastrophic events;

348.2 Legislative or regulatory change (change event);

348.3 Major transactions;

348.4 Errors in calculations, input information; and

348.5 Inability to continue to meet quality standards or output measures.

349 The EDB IM also provides for reopeners for contingent projects and unforeseen events. We discuss above our view that mechanisms similar to those under the IPP regime to deal with risk and uncertainties, including contingent and unforeseen events, will be important features of Part 6.

350 The process for applying for a reopener application should not require us to consult with relevant consumers or require IV. While the scale of a reopener application may not always be material, the timing of a decision on the application will be critical, which makes consultation and IV untenable. At the very least the consultation or IV requirements should not be mandatory and should be scalable to the degree

appropriate. We also suggest a mechanism for applications to be fast tracked where circumstances require.

351 Where possible, an application for a reopener should be focused on looking at the incremental increase in expenditure that arises from the event in question, not the whole proposal. The Commission's assessment of a reopener event should not involve more granular information or more stringent criteria than the original price-quality proposal.

Expenditure incentive mechanisms

352 We are encouraged by the Commission's consideration of a 'simplified' opex IRIS in the EV Paper. We're interested to understand more about the mechanics involved in how this would work in practice (e.g. the Commission could provide a model demonstrating how this works). We're also interested to explore a capex incentive mechanism which could work alongside the opex IRIS.

TOPIC 6: TREATMENT OF TAXATION

We largely agree with the Commission's views on the treatment of taxation, however, we recommend:

- The vanilla cost of capital be used to set prices for PQR, rather than the post-tax cost of capital; and
- Any tax losses created should be assumed to be carried forward within the FFLAS activities and used to offset future taxation in respect of those activities, rather than any tax losses created assumed to have been used immediately to reduce taxation in other parts of the regulated supplier's activities.

353 We agree with the Commission that the approach to tax should be consistent with a supplier expecting to earn normal returns over the lifetime of their assets. Chorus should expect to recover tax costs that are attributable to the supply of FFLAS over a RP.

Taxation methodology

354 We support the Commission's proposal on taxation methodology for:

354.1 **Presenting tax as a build block** – This is the most transparent approach to presenting tax costs. This method involves adopting transparent assumptions about tax-rated inputs and undertaking an explicit calculation. This contrasts with a pre-tax approach where the assumptions about the tax system are implicit only and can be hard to unpick.

354.2 **Adopting a tax payable approach** – This is where allowance for tax reflects the liability forecast for the next RP. We prefer this approach is over the modified deferred tax balance approach because:

(a) There is already a mechanism for FFLAS for smoothing the recovery of the overall cost of service over time;

(b) Smoothing effected by the tax mechanism is likely to smooth in the wrong direction; and

(c) The modified deferred tax balance approach involves unnecessary complexity.

354.3 **Estimating debt costs using an assumed level of leverage** – This is essential for remaining consistent with the Commission's logic for arriving at the leverage level assumed in the cost of capital estimate.

354.4 **Returns under ID to be disclosed using a post-tax cost of capital** – This form of the cost of capital is simplest to apply and most widely understood. As noted above, a shortcoming of the post-tax cost of capital is that it may

generate incorrect outcomes if the regulated supplier is in a tax loss situation (i.e. unless an adjustment is made). However in ID, the opportunity exists to explain and correct any misapprehension that may apply.

355 Where we don't agree with the Commission is setting prices for Chorus using post-tax cost of capital. While the post-tax cost of capital is simpler to apply and more widely understood, it will give the wrong result (or require a complex adjustment to avoid this) if the regulated supplier is in a tax-loss position.

356 Tax losses should be assumed to be carried-forward within the regulated activity, they are expected to be material in the early years of the UFB initiative. Applying a vanilla cost of capital to calculate the value of the loss asset and prices for RP1 at least would be appropriate.

Setting the initial regulatory tax values

357 We cover this in *Topic 1b: Asset Valuation – financial loss asset.*

APPENDIX B – QUESTIONS & ANSWERS

Legal framework

Q1 What are your views on our interpretation of end-users of FFLAS and (a) whether or not persons can only be end-users when they are direct recipients of a telecommunications service rather than the recipients of a non-telecommunications service, and (b) when a retail service is "dependent" on a FFLAS?
Consistent with our submission on the Commission's Process and Issues Paper, we agree with the Commission's interpretation of end-users of FFLAS. We also agree that 'another service' in the section 5 definition of 'end-user' is intended to refer to another *telecommunications* service, and that for a retail service to be dependent on FFLAS (if a FFLAS is an input into the retail service), the retail service needs to utilise a FFLAS in a close or direct way. Following this logic, we agree that – so long as the utilisation of a FFLAS is not remote – retail services will be 'dependent' on a FFLAS whenever a FFLAS is used as an input to supply the retail services, even where a non-FFLAS alternative is available.
Q2 Is the 2011 GPS on the incentives for businesses to invest in UFB infrastructure irrelevant to our decisions under Part 6?
The UFB GPS is relevant to decisions under Part 6 because it articulates policy objectives that directly bear on the exercise of the Commission's regulatory functions under Part 6, specifically determining IMs. The GPS addresses the very policy objectives that the Commission is directed by government to implement through Part 6. The context for implementing these policy objectives is ongoing with implementation of Part 6. And the enactment of Part 6, and completion of UFB build, do not remove the relevance of the GPS. To the contrary, the role of the GPS was to provide certainty regarding the *future* regulatory treatment of UFB networks. The fact that the reference to Part 6 in section 19A was only added in 2018 is not determinative of the relevance of the GPS. There is nothing in the words of section 19A that suggests a pre-existing GPS does not apply to the exercise of the Commission's Part 6 powers. For more information, refer to the section *Legal Framework.*
Q3 Can we can set IMs to support the matters in subparts 7 to 10 of Part 6, and not only IMs directly related to PQR and ID?
In theory the Commission could set IMs for matters in subparts 7 to 10 of Part 6. However closer examination of the matters in subparts 7 to 10 shows it's not appropriate to address them in IMs. There are some 'rules and process' matters in subpart 7, that the

IMs could potentially cover (e.g. for reviews), but it is not necessary for the IMs to set this out.

In addition, there are some matters within subparts 7 to 10 for which the Commission has no legal powers (e.g. section 266 or anchor service regulations to be developed by MBIE) or it is inappropriate for the Commission to address the matter in an IM (i.e. offences and penalties).

Looking at each of these subparts:

- **Subpart 7** – Prescribes the reviews the Commission can conduct for anchor services, price-quality and deregulation. IMs could potentially support matters for reviews, e.g. rules and processes involved in conducting reviews, but this isn't necessary to cover in IMs. And section 211 of subpart 7 clarifies that Schedule 3 investigations cannot be commenced for FFLAS – hence we don't think is a matter amenable to IMs.

- **Subpart 8** – Contains enforcement and miscellaneous provisions, such as evidence and the power of the Commission regarding information. We don't think any of these matters are appropriately addressed in IMs. Enforcement powers, offences and penalties should be empowered in the primary Act.

- **Subpart 9** – Provides for appeals. Again it is not appropriate for IMs to address this matter and it should be enabled in the primary Act.

- **Subpart 10** – Provides for Orders and regulations, including for the scope of FFLAS (section 226 regulations), anchor services and DFAS. All of these are regulatory powers (with the exception of section 231 for specified points of interconnection), and not regulatory powers held by the Commission. So it wouldn't be legally possible for the Commission to address these matters in IMs. For section 231 (specified POIs) the Act prescribes the process so there is no need for IMs to cover these matters.

Q4 Are there any other key issues that you consider should form part of our legal framework?

No further comments.

Key economic principles

Q5 Are there challenges involved in applying the FCM principle to FFLAS markets that mean we should not adopt this principle into the Part 6 regime? If so, please elaborate on your concerns with specific references to FFLAS market characteristics/dynamics that would make the application of the FCM principle impractical.

We support the Commission adopting the three key economic principles of real FCM, allocation of risk and the asymmetric consequences of over and under investment to guide the design of the IMs. We also agree that no further economic principles are required in relation to competition or pricing.

When applying FCM, it's important to be upfront with consumers, RSPs and investors that the overarching objective is to ensure that at the point of any FFLAS deregulation, Chorus will have been afforded the opportunity to have received a return on and of its capital since 2011 and over the life of our assets, which we describe as the overarching real FCM objective.

In applying these principles, it's important to recognise the features of FFLAS which differentiate it from services regulated under Part 4.

For more information, refer to section *Key Economic Principles.*

Q6 Do you consider there is an economic principle related to competition that would increase regulatory certainty and would inform our decision-making process over and above the purposes described in s 166(2)? If so, please elaborate on how such a principle would fit with our decision-making framework.

We do not believe any further principles in relation to competition are required. We support the adoption of the three economic principles of real FCM, allocation of risk and asymmetric consequences of over and under investment.

However, it is important that the Commission takes a measured approach when applying section 166(2)(b) in light of the importance of real FCM as a key underpinning principle of this regime.

Q7 What are your views on the advisory panel's recommendation that there does not appear to be a strong case for an additional pricing principle beyond the pricing rules the Act imposes on Chorus? Please explain any areas where you disagree with the panel's advice and elaborate on how any pricing principle you propose would fit with our decision making framework.

We agree with the Commission's expert panel that no further principles in relation to pricing are required.

Although we agree with the Commission's conclusion, our views on the pricing incentives we face in the regime differ from the analysis put forward in the expert paper from Vogelsang and Cave.

Much of the Pricing Paper's analysis rests on the Crew-Kleindorfer effect, which predicts that a supplier under a revenue cap will set higher-than-efficient prices. The consequence

of this is that the paper gives a substantial role to the anchor service regime to conclude that further restrictions on Chorus' pricing are not required.

However, if we did try to structure prices to minimise costs, then the two options we would have are to:

- Attempt to dissuade consumers from connecting to fibre once they have been passed, however, this would not be permitted due to anchor service requirements; and
- Discouraging consumers from moving to higher speed plans.

Both options would exacerbate our stranded asset risk further which would not be commercially sensible. Given this, we would instead:

- Encourage fibre take-up;
- Encourage consumers to opt for higher value products; and
- Setting prices that respond to competition, without subsidising any of these services / products.

The Pricing Paper also includes an analysis of pricing approaches for unbundled fibre. As with our views on pricing more broadly, we do not see the need for any additional future regulatory constraints on unbundled fibre.

Do you have any other views on our economics principles?

No further comments.

Asset valuation

Q8 What are your views on our approach to establishing the initial RAB values?

A principles-based regime for asset valuation, with more general 'rules', similar to the Part 4 regime is appropriate for fibre regulation.

We have previously expressed our preference (on behalf of investors) for the earliest possible determination of the initial RAB. This is also essential to give us the certainty we need to submit a price-quality proposal and for our investors to have sufficient confidence to invest in an efficient expenditure programme.

We support a supplier-led approach for establishing the initial RAB.

For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*

Q9 What are your views on our approach to the composition of the RAB?
We generally agree with the Commission. However the definition of 'commissioning' should be consistent with accounting treatment, as is standard practice in Part 4. Chorus' audited financial statements are prepared in accordance with GAAP principles and the New Zealand equivalent to IFRS. This means that assets should be eligible for inclusion in the RAB when that asset has been recognised in our accounts, and available to be provisioned. For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*
Q10 Are any issues likely to arise from adjusting asset costs to take account of capital contributions or supplier revaluations?
For accounting purposes, we have adopted a definition for capital contributions that's consistent with accounting standards. We don't foresee any issues with treating items defined as a capital contributions in a manner consistent with those accounting standards – i.e. the contribution is treated as a credit against the asset value. This would be a pragmatic approach which would avoid the need to 'tinker' with values in our accounts for regulatory purposes, and which would facilitate reconciliation back to those accounts. We support the Commission's proposal to ignore previous revaluations of assets. None of Chorus' assets have been revalued since demerger. For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*
Q11 What types of assets may require Chorus and the other LFCs to depart from GAAP? Please provide reasons for your view.
One area that could warrant a departure from GAAP treatment is RSP incentive payments. We note that airports treat similar payments as an expense in the Part 4 regime. For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*
Q12 What are your views on the process for setting asset lives, and whether any limits on shortening asset lives are required?
We support the use of GAAP compliant asset lives. The Commission puts forward the adjustment of asset lives (i.e. shortening or lengthening) as an option for smoothing

revenues. Our views on that proposal are captured in the *Key Economic Principles* section.

Q13 What are your views on our approach to the amortisation of the loss asset and the period over which it should be amortised?

We support the Commission's decision to use a BBM approach to valuing the loss asset and the Commission's proposal for the asset to be amortised over a period equivalent to the weighted average life of the assets included in the main RAB.

For more information, refer to section *Topic 1b: Asset Valuation – financial loss asset.*

Q14 What are your views on our approach to the indexation of the RAB, including whether there should be a different indexation approach for the loss portion of the RAB?

We support RAB indexation, and agree with the position adopted by the Commission in the Part 4 IM review process that RAB indexation is aligned with achieving real FCM in a BBM framework. The same RAB indexation approach should apply to the loss asset in the RAB.

For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*

Q15 What are your views on removing assets from the RAB due to deregulation, and the process for determining the asset value that is removed?

We don't agree in principle with the removal of assets.

We agree with the Commission that Chorus faces risks arising from market and technological change and that the magnitude and probability of these risks is currently unknown.

Our recommendation is that the IMs provide a commitment to monitor whether in fact the overarching FCM objective has been obtained since 2011 and a set of flexible tools to apply if evidence emerges this has not occurred.

For more information, refer to section *Topic 3b: Type II Asymmetric Risk.*

Do you have any other views on our approach to asset valuation?

Crown financing – Crown financing is not costless to Chorus. The legislation directs the Commission to take into account the actual financing cost of the CIP instruments. This

means the adjustment made to Chorus' required revenues for concessionary financing should reflect the economic benefit to Chorus from the Crown financing.

Additional question: Depreciation of assets backed by Crown financing.

Depreciation of the assets funded by Crown financing should be permitted during the loss period because:

- Crown financing wasn't associated with any specific asset and it's wrong to treat it as such; and
- This is an issue related to the benefit assumed from CIP funds.

For more information, refer to section *Topic 1b: Asset Valuation – financial loss asset.*

Cost allocation

Q16 What are your views on how costs should be allocated between FFLAS and other services?

We support the Commission's emerging view to adopt the approach used in the Part 4 regime to allocate costs across regulated and non-regulated services. In particular, we support:

- A requirement to allocate directly attributable and non-directly attributable costs;
- For non-directly attributable (i.e. shared costs), adopting ABAA for including the use of causal allocators;
- Proxies are used when a causal relationship cannot be established; and
- The explicit requirement for fibre suppliers not to double recover costs across Part 4 and Part 6.

However we do not support the exclusion of OVABAA from the IM.

For more information, refer to section *Topic 2: Cost Allocation.*

Q17 What are your views on how costs should be allocated between FFLAS, and the potential conditions we have identified?

We agree with the Commission's proposal that there should not be prescriptive cost allocation IM rules for allocating costs among different types of regulated FFLAS.

Any future situations that would require suppliers to allocate costs between different types of FFLAS are purely arbitrary at this point. This level of granularity should only be considered at the time such a need is apparent. There's a risk of driving significant cost

and complexity into our systems and reporting processes to produce information that is not fit for purpose for future situations that are currently unknown. The cost of doing so would ultimately be borne by consumers.

For more information, refer to section *Topic 2: Cost Allocation.*

Q18 What is your view on whether some decisions relating to allocating costs between FFLAS could be addressed via cost allocation IMs to be set at a future date?

We support the Commission's proposal to defer to a future regulatory period the decision whether not to allocate costs among different types of FFLAS given:

- It's neither necessary, nor appropriate, given the time constraints to implement this regime for RP1;
- The same assets are used to deliver a range of different services;
- It is uncertain what value this would add;
- The primary purpose of cost allocation is to identify the regulated versus unregulated costs and that's what the Commission should focus on; and
- We need time to understand how everything hangs together in this regime before implementing even more complexities, especially given the risk of getting it wrong is significant as this is new territory for the Commission.

For more information, refer to section *Topic 2: Cost Allocation.*

Q19 What level of granularity in terms of product specificity and/or geography is appropriate to support cost allocation in the identified conditions?

We agree with the Commission that regulated suppliers are best placed to choose the level of asset group, services or operating expenses categories to which cost allocation should be applied.

However we disagree with the principle of specifying a minimum level of granularity to meet *future* needs. Where those needs haven't yet been defined, there's a risk of driving significant cost to our financial systems and reporting processes to produce information that is not fit for purpose for a future exercise, which will ultimately come at a cost to consumers.

For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*

Q20 What is your view on whether fibre suppliers must apply ABAA to assets that are shared at the FFLAS vs other non-FFLAS services level when establishing the initial RAB?

We support the Commission's proposal for regulated suppliers to apply ABAA to assets that are shared between FFLAS and non-FFLAS services in establishing the initial RAB.

For more information, refer to section *Topic 1a: Asset Valuation – excluding financial loss asset.*

Q21 What are your views on the allocation of costs that could be included in the past losses for the initial RAB?

We agree with the Commission that, to give effect to the Act, the calculation of the past financial losses must include both capital and operating costs, which includes those that are:

- Directly attributable to UFB – as this represents the costs that are incremental to fibre i.e. the cost to transition to the new technology; and
- Shared costs including pre-2011 and post-2011 assets – as this takes into account the proportion of existing assets that were reused to provide fibre.

For the allocation of shared costs, we support alignment with allocating costs between FFLAS and other services for forwards-looking cost allocation, which applies ABAA when calculating past financial losses.

For more information, refer to section *Topic 1b: Asset Valuation – financial loss asset.*

Q22 What are your views on the choice of allocators for UFB initiative network investment which was used for non-UFB purposes?

We agree with the Commission's proposal to adopt an approach for past losses that uses a combination of direct attributions and ABAA. We also support:

- Cost allocation calculations being undertaken each year up to the implementation date; and
- Allocators for past losses being applied consistently.

For more information, refer to section *Topic 1b: Asset Valuation – financial loss asset.*

Q23 What are your views on the use of proxy allocators and other approaches to simplify the past losses calculations?

We generally support the Commission's suggestions for simplifying the approach to past losses, including:

- An allocation performed on an annual basis using dates that align with current reporting cycles; and
- Adopting a level of aggregation for assets and operating expenses that aligns with existing data, because requiring data to be re-cut would be time consuming and complex.

However, we do not support an approach which relies on existing ID.

For more information, refer to section *Topic 1b: Asset Valuation – financial loss asset.*

Do you have any other views on our approach to cost allocation?

While it is important to ensure that no double or over recovery occurs as a result of a cost allocation approach, the principle of no missing costs – i.e. that cost allocation provides confidence that permit costs to be recovered at least once – is equally important.

For more information, refer to section *Topic 2: Cost Allocation.*

Cost of capital

Q24 What are your views on our approach to estimating a service-wide cost of capital, including a service-wide asset beta that will apply to all providers of FFLAS?

We support the Commission's proposal to take a service-wide approach to cost of equity when determining the cost of capital IM for FFLAS and the SBL-CAPM.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q25 What are your views on CEPA's approach to estimating asset beta, particularly on the comparator firms selected and the data period which is used to estimate the asset beta?

We support the Commission's six-step approach to estimating the asset (and equity) beta value. We also support its view that it is appropriate to estimate a FFLAS asset beta based on a comparator sample developed specifically for the regulated suppliers of FFLAS.

However, we disagree with a number of CEPA's assumptions when determining the relevant comparator sample for the FFLAS asset beta. These assumptions mean CEPA's

comparator sample, and the resulting recommended asset beta, don't accurately reflect the systematic risk associated with providing FFLAS.

The comparator sample is a crucial input to the cost of capital parameters for the asset beta, leverage and credit rating. It goes to the core purpose of the cost of capital methodology – to represent the cost of capital of the regulated service in the context of its relative risk.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q26 Should we adopt a specific value for the TAMRP in the cost of capital IM for the Part 6 regime?

We support the Commission's proposal to estimate and specify in the cost of capital IM a value for the TAMRP, rather than to adopt a TAMRP of 7%, which it currently applies in the Part 4 IMs.

As the Commission rightly notes, if the Commission were to adopt the current TAMRP from the Part 4 IMs, by the time of the next review of the Part 4 IMs that parameter would potentially be 12 years old. It would be difficult for the Commission, FFLAS suppliers and interested parties to have confidence that the TAMRP was still accurate after so long. Estimating a fresh TAMRP at the start of the Part 6 regime would mitigate this concern.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q27 What are your views on our methodology for setting the risk-free rate?

We accept the Commission's intention to set the risk-free rate in a similar way to Part 4.

The Commission's proposal to apply the same approach to estimating the risk-free rate for FFLAS in the post-implementation period as it does for other regulated services is sensible. Maintaining a consistent regulatory approach, where appropriate, promotes greater certainty for suppliers, their customers and consumers. The risk-free rate is not an industry-specific variable, and we are not aware of any relevant framework differences, or new information, which means that the Commission Part 4 approach can't be appropriately applied in the post-implementation period for FFLAS under Part 6.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q28 What are your views on our methodology for setting the debt premium?

We accept the Commission's view that it is appropriate to apply in the post-implementation period the same approach to estimating the debt premium and TCSD as it does for other regulated services, including those regulated under Part 4.

In determining the debt premium, the benchmarked credit rating should be sector-specific and not necessarily the same as in Part 4, given FFLAS' higher risk and demand uncertainty. Unlike the risk-free rate, the debt premium can vary by industry (i.e. to the extent that debt investors view those industries as involving different degrees of risk). This requires considering further the emphasis placed on observed debt premiums on bonds issued by qualifying issuers in different industries.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q29 What are your views on using a TCSD?

See answer to Question 28.

Q30 What are your views on a long-term credit rating of BBB+?

We disagree with the Commission's view that an appropriate credit rating for Chorus' FFLAS is BBB+. Based on Oxera's expert advice, an appropriate credit rating is BBB.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q31 What are you views on our approach to WACC for the losses calculation?

Asset beta – We don't agree with the proposal to apply the same asset beta when determining cost of capital in both the pre- and post-implementation periods. The proposal in the EV Paper appears inconsistent with Dr Lally's view that the systematic risks faced by a supplier in the pre-regulatory period differ from those faced following implementation of regulation. The proposal appears to be based on a view that it is simply too difficult to estimate the systematic risk for the pre-implementation period precisely.

Risk-free rate – We disagree with the view in the EV Paper that a risk-free rate based on a rolling average approach is appropriate for the calculation of financial losses over the pre-implementation period. This proposal is inconsistent with the Commission's established approach, and stated rationale, to setting the risk-free rate. No clear or compelling reasons have been provided to depart from the Commission's own established approach (as endorsed by its advisor Dr Lally).

Debt premium and TCSD – We agree with the Commission's proposed use of a trailing average approach to estimating the debt premium in the post-implementation period. And we agree, in principle, with the desire for consistency in approach for the pre-implementation period. However, we note there are technical reasons why a trailing average debt premium approach would require adjustment for use in the pre-implementation period. We refer to Houston Kemp's report for further details.

For more information, refer to section *Topic 1b: Asset Valuation – financial loss asset.*

Q32 What are your views on our approach to WACC uplift and potential asymmetric risks?

We welcome the Commission's recognition that a cost of capital uplift is an orthodox and justified mechanism.

Asymmetric consequences of under-investment – We agree with the Commission that the analytical framework used in previous cost of capital uplift assessments is appropriate for considering the potential asymmetric consequences of under-investment for FFLAS. However we disagree with the view in the EV Paper that:

- The framework illustrates the significant costs of the uplift;
- The benefits from mitigating under-investment do not outweigh this cost on the basis that FFLAS uses a new network and the availability of alternative technologies is likely to mitigate the impact of any outages on consumers; and
- Any under-investment in FFLAS is less likely to be 'hidden' compared to the energy sector, with under-investment showing up in performance standards more quickly.

Type I asymmetric risks – We accept the Commission's proposal to provide a similar approach to cover catastrophic risk as is applied in Part 4.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q33 Should a separate WACC for ID be specified and, if so, what should be the frequency and period be for ID WACC determinations?

We agree with the Commission that publication of an annual cost of capital for ID is not required and alternative options should be considered. The annual cost of capital for ID is not only unnecessary, it can also create erroneous expectations about the workings of the regulatory regime, i.e. that prices will rise or fall with interest rates during a regulatory period, which is not intended by the regime.

For more information, refer to section *Topic 3a: Cost of Capital*.

Q34 How should the WACC be specified in the IMs for information disclosure (ID) and should a separate WACC should be specified for Information disclosure?

More guidance is needed as to how and when the Commission would derive the return against which it would benchmark the returns of the regulated supplier. We note that under the airports model, the Commission specifies an ID cost of capital a prescribed number of months prior to an airport pricing decision.

For more information, refer to section *Topic 3a: Cost of Capital*.

Do you have any other views on our approach to cost of capital and risk?

Recovery of Type II asymmetric risk – In dynamic markets where there is an equivalent quality value embodied in the capital value there is a risk regulated suppliers won't recover for Type II asymmetric risk. There needs to be a mechanism to mitigate or compensate for this risk. Restrictive rules that constrain revenues and/or pricing have significant potential to increase the risk if they interfere with recovery over the life of the asset. Given the complexities within the regulatory framework, the Commission can't 'wait and see' but needs to factor these considerations into its conceptual decision-making at the start of the regime. We suggest this risk should be addressed in the IMs by an ex-ante commitment to the overarching FCM objective over successive RPs.

Solution to recovery for Type II asymmetric risk – We propose that a number of options, that may be used in combination, should be available to address the different circumstances in which recovery for Type II asymmetric risk might arise. Giving Chorus more flexibility on pricing and depreciation are the best tools to address the overarching FCM objective, as these tools align with comparable WCM outcomes. However, this may turn out to be only a partial solution if the demand levels, anchor services pricing, and other regulatory constraints don't allow us to recover our capital costs. So it also makes sense for the IMs to provide for an escrow account, for the possibility that assets could be retained in the RAB for a period of time and a Supplementary Margin to address the consequences of early disruptive change.

Supplementary Margin and escrow account – We have suggested an additional cost of capital uplift and presented options, including funding an escrow account to address asset stranding (ex-post) and/or a Supplementary Margin (ex-ante).

For more information, refer to section *Topic 3b: Type II Asymmetric Risks*.

Quality dimensions

Q35 What are your views on the role of the quality IM within the wider regulatory framework for fibre? Please explain any additional contextual factors we should consider.

We agree the role of quality regulation in the PQD is to incentivise regulated suppliers to provide fibre services of a quality that reflects consumer demands.

The role of quality regulation in the PQD must be considered in light of:

- First, the particular commercial context and market dynamics; and
- Second, the other regulatory instruments in the wider fibre regulatory regime that will influence service quality. In the context of these other instruments, quality

regulation in the PQD should focus on those aspects best measured on a network-wide basis (i.e. not on an individual service basis).

For further information, see *Topic 4: Quality Dimensions*.

Q36 How detailed should the quality IM be to help regulated fibre providers estimate their expenditure requirements in order to meet the quality standards?

We support a less prescriptive approach to the quality IM than the Commission is proposing. Our preferred approach is that Chorus proposes quality standards as part of our price-quality proposal, in the same way Transpower does. To prepare a price-quality proposal, including appropriate quality standards, the certainty we need from the IM can be achieved by:

- Rules and processes for setting quality standards and quality measures for ID (which could be addressed in the quality IM or in the rules and processes IM).
- Principles that the Commission must apply when evaluating a price-quality proposal and determining quality standards and measures. The appropriate principles are identified in the EV Paper and should include facilitating service differentiation and innovation.
- Specific quality dimensions under which the Commission may (but does not have to) set measures and/or standards.
- Binding metrics but no specific measures. This will provide greater certainty about what a quality dimension is intended to measure, while permitting flexibility to develop methodologies for measuring performance against that metric.

For further information, see *Topic 4: Quality Dimensions*.

Q37 With reference to the provisions of the WSA and NIPA referred to below in Table 3 and Attachment D, what level of detail do you think is appropriate to include in the quality IM? Which aspects of these agreements do you think have or have not worked well?

We are concerned the proposed measures and example standards set out in Table 3 indicate an intention to transpose service level requirements under the UFB agreements to the quality IM. While we support maintaining the quality of service provided under the UFB agreements as we move to the new framework, it is not the role of network quality regulation to transpose the existing obligations in the NIPA. There are three main reasons for this:

Context – The Commission has recognised the NIPA is an instrument for a particular purpose. It's a commercially negotiated infrastructure construction contract and the requirements are a product of that context. Requirements from these contracts should

not be mechanically transposed into a new regulatory framework simply because they are requirements that exist today.

Consequences – The service levels under the NIPA are subject to specified consequences of default, which were negotiated as part of the commercial agreement. Incorporating these same service levels as a price-quality requirement would substantially increase the potential consequences of default. Failure to comply with a quality standard carries potential for a pecuniary penalty of up to $5 million and, in some cases, may be an offence. It would be inappropriate to incorporate a suite of commercially agreed service levels into regulation while increasing the consequences of default far beyond that which was agreed.

Practicalities – The NIPA sets out service levels that are, by design, duplicated in the UFB reference offer. The NIPA contains a relatively simple mechanism for amending both the UFB reference offer and UFB agreement service levels by agreement through the Telecommunications Carriers Forum (**TCF**) and with the consent of CIP. Obviously regulatory requirements cannot be amended so simply. If requirements, measures or standards overlap across anchor service regulations, DFAS regulations, IMs, ID determinations and PQD, the process for amending a quality requirement in an aligned way is likely to be extremely complicated.

For further information, see *Topic 4: Quality Dimensions*.

Q38 What are your views on the role and function of the quality IM within the commercial environment for fibre? Please explain any additional contextual factors we should be considering.

As a wholesale-only operator, we need to be highly responsive to changing demands and maximise the particular capabilities of fibre to have a chance of achieving a normal return. This reduces the need for a great deal of quality regulation and supports a quality IM which facilitates a narrow scope of measures and standards, and ensures providers' ability to respond quickly to changing demands.

Q39 How should the quality IM ensure regulated fibre providers supply the quality end-users and access seekers demand, considering the relatively rapidly changing demands and expectations?

In a dynamic market, it is important the quality IM doesn't unnecessarily constrain the regulated supplier from responding to changing demand.

In an incentives based framework, with service differentiation supported by prescribed services with detailed service levels, it is neither necessary nor appropriate for the quality IM to try to articulate a full suite of quality requirements which embody consumer demands and expectations.

The quality IM can contribute by setting measures and standards on a few key dimensions that are best measured at a network level and demonstrate how the regulated network is being managed. In our view these are availability and performance.

The quality IM should also incorporate a specific principle that measures and standards should facilitate service differentiation and innovation.

Finally, consumer preferences, and the needs of the network, will evolve over RPs. So it is important that the quality IM is not overly prescriptive and allows for development of the quality standards over time. We would also support an option in the IM for Chorus to propose alternative quality standards in its proposal if it can demonstrate that this would better meet the section 162 purpose than the dimensions and metrics in the IM.

Q40 How do the incentives to provide a level of quality that access seekers and end-users demand differ among Chorus and the other LFCs?

The market context places significant incentives on all wholesale-only fibre suppliers to provide the quality that consumers demand.

Q41 How should the quality IM account for the possibility of increased competition and the resulting changes to incentives faced by fibre providers?

The quality IM should facilitate measures and standards that allow the regulated supplier to respond quickly to market developments. This means only setting measures and standards where necessary (so no requirement to set these for all dimensions), and including explicit principles which recognise the changing market and need to respond quickly. Principles in the IM should require that measures and standards:

- Do not overlap or duplicate controls in other instruments; and
- Facilitate service differentiation and innovation. In other words, the quality standards should not constrain Chorus' ability to use service levels and parameters to define higher or lower value commercial services.

Q42 To what extent do you consider the following quality dimensions can be controlled by wholesale fibre providers: ordering, provisioning, switching, faults, availability, performance, customer service?

In terms of how consumers experience each of these dimensions, wholesale providers have partial control of each. But, as pointed out by TUANZ in their submission on the Process and Issues paper, what matters to consumers is quality end-to-end.

This means it is important that what is measured under any dimension corresponds to that part which is within the control of the wholesale provider. This is why we recommend binding metrics be included in the quality IM – so regulated suppliers have confidence what is measured under each head will be within their control. This should be

supported by an explicit principle that measures and standards must relate to matters within the control of the regulated supplier.

Q43 What other quality dimensions can be controlled, in whole or in part, by wholesale fibre providers?

Being within the control of a wholesale fibre supplier does not mean it is appropriate to regulate a dimension of quality under the IM, ID or PQR. The scope of regulation should be limited to those matters required to ensure regulated suppliers deliver the quality of service consumers demand, having regard to the incentives that exist as a result of the market context and the constraints that already exist in other instruments.

If existing constraints and market incentives are insufficient the next question is what the best tool is in the regulatory toolkit to address this. Where these are best addressed at a network wide level, and if ID/PQR is identified as the best tool, only then should the question be asked which aspect of this dimension is within the control of the wholesale provider.

As noted in our submission, the only dimensions which fall into this category are availability and performance.

Q44 How detailed should the quality IM be? What are your views on which of CEPA's levels of detail is appropriate to use in setting the IM?

We support a less prescriptive approach to the quality IM.

CEPA recommended 'level 2' from its options for how specific the quality dimensions IM should be – specific dimensions supported by broad principles. We supported this approach in our previous submission and continue to believe it would strike the right balance.

The Commission has proposed 'level 3' including specific metrics and measures. We would support binding metrics which narrow the scope of what can be measured under each dimension. But we would not support measures which provide for how something must be measured (whether binding or non-binding). We would characterise our position as CEPA level 2.5.

Q45 Should quality measures be included in the IM? Which quality dimensions should be linked to measures? How should these quality measures be specified?

No, we don't think quality measures (which describe in detail how something should be measured) should be included in the IM. However, we would support binding metrics (high level descriptions of what can be measured) being included in the IM.

By including metrics but not measures, the IM can provide certainty by narrowing the scope of potential measures without introducing inflexibility and the risk a measurement approach becomes undesirable.

We would also support an option in the IM for a regulated supplier subject to PQR propose alternative quality standards in its proposal if it can demonstrate that this would better meet the section 162 purpose than the dimensions and metrics in the IM.

Please refer to *Topic 4: Quality Dimensions* for our proposed metrics.

Q46 Should some exceptions, such as when an end-user fails to attend a connection appointment, be included in the PQR quality standards or ID quality measures? In other circumstances would exceptions be more appropriate in the quality IM? Please provide any examples.

Exceptions will be required for any measures where they are beyond the reasonable control of the regulated supplier. This is particularly important for any measures against which a compliance standard is set.

We think exceptions are at a level of detail which is best included in ID and/or PQD. However if the Commission proposed to include measures in the quality IM it should at least be explicit that the ID and PQD may set out exceptions.

Q47 How should quality regulation reflect the different factors that affect service quality? What are your views on whether reporting requirements should be broken down by geographic areas, or types of end-users, access seekers or services?

With the multi-faceted regulatory framework we have there is a real danger of imposing excessive constraint. If a regulated supplier cannot respond to rapidly changing demand and market dynamics it cannot have a reasonable expectation of a normal return.

Granularity may also have a cost which will ultimately be borne by consumers so should only be required for a definite purpose.

This means careful thought and analysis about the costs and benefits of additional or more granular measures and standards is required before these are imposed.

Q48 Which quality dimensions are most important to end-users and access seekers?

Chorus carries out work focused on gaining a deeper understanding of consumer expectations through quantitative surveys and qualitative focus groups and interviews. Our objective is to understand what different segments of consumers want and need and what their experience is today, and we have previously discussed with the Commission.

We measure customer satisfaction on the end-to-end experience, which is the sum of Chorus, RSP and service companies. Chorus does not control the whole experience. The pain points for consumers relate to communication, coordination and expectations.

Q49 What are your views on the quality dimensions suggested by CEPA: ordering, provisioning, switching, faults, availability, performance, and customer service? Should any dimensions on this list be added, changed or removed? What are your views on how these terms should be defined?

The seven dimensions cover the aspects of service provision and provide for a scope of regulation far wider than is necessary.

Given the commercial context, other regulations that will be in place, precedent in Part 4 for regulated utilities, and the nature of ID and PQR the quality IM is best targeted at availability and performance:

- **Availability** – The availability of the service; and
- **Performance** – The service's technical performance, for example speed or management of congestion.

Q50 What are your views on CEPA's concept of the fibre service lifecycle and its applicability to all aspects of fibre quality? Should other aspects of quality such as network operations or network specifications be covered by the quality IM? If so, how?

CEPA's fibre service lifecycle is more than sufficient to cover all aspects of fibre service quality that may be measured under ID/PQR. We support the focus on output measures of quality.

No further aspects of quality need to be covered in the IM, and to suggest otherwise would be ignoring the reality of incentives that exist as a result of the commercial context and the constraints imposed by other regulatory instruments.

Q51 How should the quality IM reflect "access to" and "interconnection with" fibre networks?

See answer to Q49.

Q52 Should fibre providers' consultation with stakeholders be a quality dimension? If not, should the extent of consultation be addressed in a different way?

We don't support consultation being be a dimension in the quality IM, as:

- It's more appropriate to have stakeholder consultation requirements on our price-quality proposal, which will include quality measures and standards;
- Stakeholders have the opportunity to consult on regulations for anchor and mandatory services; and
- Such a dimension would be very hard to measure, potentially rendering it meaningless.

Chorus works hard to understand what our RSPs and consumers want. Any mandatory requirement would not add to this and risks preventing us responding to changing market demands. We reiterate our previous submission that different RSPs have different incentives – e.g. those buying unbundled layer 1 products and those buying inputs to support mobile networks to compete with fixed access. This dynamic will occasionally produce perverse incentives as to the desirable quality requirements (and consequent expenditure) on regulated suppliers.

For further information, see *Topic 4: Quality Dimensions*.

Do you have any other views on our approach to quality dimensions?

No further comments.

Expenditure

Q53 What are your views on how we have identified the risk associated with expenditure, and the role of the capex IM in managing those risks?

The Commission rightly acknowledges there are risks in capex forecasts. There are particular risks for Chorus that aren't present in Part 4 – including demand/uptake uncertainty, which need to be accommodated in the Part 6 framework.

We agree that the Commission's aim should be to ensure efficient levels of investment, while mitigating the risks of over-forecasting. We support the Commission's proposal to engage further on these issues.

For more information, refer to section *Topic 5: Expenditure.*

Q54 What are your views on the three areas of focus for the content of the capex IM (Information requirements, evaluation criteria and timeframes & processes)?

We agree that the three core components that relate to the proposal and assessment of capex are a sensible starting point for PQR.

For more information, refer to section *Topic 5: Expenditure.*

Q55 What are your views on the three issues unique to fibre regulation that we have identified? Are there any others we should be considering?

We agree there are issues unique to fibre regulation that will impact the development and assessment of our price-quality proposals. The Commission identified in the EV Paper:

- Proposals for capex that involve spend on both FFLAS and non-FFLAS;
- Proposals for capex for assets that are likely to become competitive; and
- Proposals for capex that seek approval for expenditure that is less than the Commission thinks is the efficient level to promote competition in other markets.

We think the orthodox expenditure objective is sufficient to address these circumstances. Any novel evaluation criteria should be treated with caution.

There are other issues unique to fibre regulation, and we will have more insights as we prepare Chorus' first price-quality proposal. At this point, it's important that the IM rules contain mechanisms that allow key uncertainties to be addressed during a RP.

We support the Commission's proposal to engage further on these issues.

For more information, refer to section *Topic 5: Expenditure.*

Q56 What are your views on the need to vary our approach depending on the type of capex that we are assessing?

We agree the Commission needs to vary its approach depending on the type of capex that is being assessed. We support the Commission applying the principle of proportionate scrutiny to our proposed expenditure, as it does when assessing price-quality proposals under the Part 4 framework.

How we demonstrate the expenditure objective will vary by asset class. Different methodologies (i.e. different planning and forecasting techniques) will apply to different types on investments.

In accordance with the principle of proportionate scrutiny, committed UFB spend should be subject to a different level of scrutiny to general expenditure, on the basis that we are contractually obliged to incur UFB expenditure.

For more information, refer to section *Topic 5: Expenditure.*

Q57 What are your views on not pursuing a total expenditure (totex) forecasting approach for the fibre regime at this stage?
Consistent with our Process and Issues Paper submission, we support separate rules for capex and opex, rather than a totex approach. We don't expect to face significant opex-capex trade-offs that the totex approach is designed to address.
Q58 What are your views on the options for additional expenditure efficiency incentives we have set out?
We are encouraged by the Commission's consideration of a 'simplified' opex IRIS and are interested to understand more about how this would work in practice (e.g. the Commission could provide a model demonstrating how this works). We are also interested to explore a capex incentive mechanism which could work alongside the opex IRIS. We anticipate this will be part of an upcoming consultation for rules and processes topics.
Q59 What are your views on our proposed approach for setting transitional arrangements for PQR in the first regulatory period?
We support the Commission's proposal for setting transitional arrangements. As we outlined in our Process and Issues submission, due to the time-pressures to develop a price-quality proposal for the Commission to assess prior to implementation date, transitional arrangements will be required. The two key areas are: **Quality –** The IMs should allow for a transitional process for RP1 for setting of quality measures and standards. Transpower's transition to its first regulatory period is a useful benchmark. Quality targets should not be linked to revenue and quality regulation, but should focus on targets rather than strict standards. **Expenditure –** A modified approach is also appropriate for some expenditure process and evaluation requirements given challenging timeframes to implement a new regulatory regime. The approach should include: • Less granular information requests; • Less scrutiny of the price-quality proposal; • Deferring the obligation for Chorus to engage with consumers in developing the price-quality proposal prior to RP2; and • Tailored and voluntary IV of the price-quality proposal for RP1. For more information, refer to section *Transitional Arrangements*.

Do you have any other views on our approach to the capex IM?
As noted in our responses to questions 53 and 54, at this point in the design of the new regulatory regime, mechanisms that allow us to access additional capex within a RP will be an important feature of the capex IM to manage uncertainties. There may be some event-driven uncertainties (e.g. copper to fibre migration occurring at higher than forecasted levels) that could be addressed with pre-approved allowances that are released automatically when certain conditions are met (e.g. $x capex per connection to be transitioned off copper). There are also volume or rate-drive uncertainties (such as fibre uptake) that could be addressed with pre-approved amounts that are released based on actuals (e.g. $x capex per 1000 new connections). Both are examples of mechanisms which would preserve incentives for efficient cost (and preserve incentive to promote uptake), but remove the risks inherent in forecasting uncertainties. We would welcome further engagement with the Commission on appropriate mechanisms, and suggest this is an area suitable for a Commission-led workshop.

Treatment of taxation

Q60 Is presenting tax as a building block in its own right is the most transparent approach to presenting tax costs? Please provide the reasons for your view.
We agree presenting tax as a building block in its own right is the most transparent approach to presenting tax costs. This method involves adopting transparent assumptions about tax-rated inputs and undertaking an explicit calculation. For further discussion, see *Topic 6: Treatment of Taxation*.
Q61 What are your views on adopting the tax payable approach?
Adopting a tax payable approach (whereby the allowance for tax reflects the liability forecast for the next RP) is preferable over the modified deferred tax balance approach. For further discussion, see *Topic 6: Treatment of Taxation*.
Q62 What are your views on estimating debt costs using an assumed level of leverage?
We agree with estimating debt costs using an assumed level of leverage. This is essential for remaining consistent with the Commission's logic for arriving at the leverage level assumed in the cost of capital estimate.

For further discussion, see *Topic 6: Treatment of Taxation*.

Q63 Should prices be set for Chorus using a post-tax WACC? Please provide the reasons for your view.

No. While the post-tax cost of capital is simpler to apply and more widely understood, it will give the wrong result (or require a complex adjustment to avoid this) if the supplier is in a tax loss position.

Tax losses should be assumed to be carried-forward within the regulated activity, and tax losses are expected to be material in the early years of the UFB, so applying a vanilla cost of capital to calculate the value of the financial loss asset and prices for the first regulatory period at least would be appropriate.

Q64 Should the returns under ID be disclosed using a post-tax WACC? Please provide the reasons for your view.

Yes. It is appropriate for returns under ID to be disclosed using a post-tax cost of capital. This form of the cost of capital is the simplest to apply and most widely understood. As noted above, a shortcoming of the post-tax cost of capital is that it may generate incorrect outcomes if the regulated supplier is in a tax loss situation (i.e. unless an adjustment is made). However in ID, the opportunity exists to explain and correct any misapprehension that may apply.

Q65 What are your views on establishing the initial regulatory asset value using the lesser of the assets' actual tax book value established using IRD rules and the RAB?

Setting the initial regulatory asset value at the lesser of the actual tax book value and the RAB is appropriate. The capping gives recognition to the view that applying the actual tax book value may be unreasonable where the tax value has been reset at a materially higher value as a consequence of a transaction.

However we recommend two changes:

- Applying the cap at 2011; and
- Tax effects of future transactions to be ignored.

For further discussion, see *Topic 1b: Asset Valuation – financial loss asset*.

Q66 Have tax losses from the fibre rollout been utilised by Chorus and the other LFCs to offset profits in other parts of the business or group, meaning that tax

losses should not be carried forward or included in the calculation of initial losses? Please provide the reasons for your views.
No we do not agree with the proposal that when the financial loss asset is calculated (i.e. period from 2011 to implementation), any tax losses created are to be assumed to have been used immediately to reduce taxation in other parts of the regulated supplier's business (i.e. for Chorus this implies copper and unregulated services). The alternative is to assume that any tax losses are carried-forward in time until there is sufficient taxable income in the regulated activity. For further discussion, see *Topic 1b: Asset Valuation – financial loss asset*.
Do you have any other views on our approach to the treatment of taxation?
No further comments.