Submission on price-quality path draft decision

8 July 2021

Public version

CHORUS

Contents

Executive summary

Chorus is delivering for consumers

1. Current fibre prices and contractual settings are delivering positive outcomes for our consumers. End-user data usage continues to grow exponentially, while prices remain flat in real terms. Chorus actively encourages end-users to migrate to fibre and innovates to develop new products, while meeting ever-growing demands to connect to fibre, for faster speeds and higher data use. This is supporting a strong, healthy level of retail competition. We want to maintain this momentum over the first regulatory period (**PQP1**) and continue delivering great outcomes for consumers.

The draft decision on expenditure reflects a misunderstanding of Chorus' business and is unsound

2. Unfortunately, in assessing our expenditure proposal, the Commerce Commission (**Commission**) has not had enough regard to Chorus' operating context. It has misunderstood our actual business drivers and overlooked or misinterpreted information provided by Chorus. As a result, it has proposed arbitrary and unjustified expenditure cuts. The proposed cuts will curtail efficient investment and increase risk and cost to consumers over time.

3. The draft decision is treating Chorus as if we were a traditional monopoly supplying a mature and homogenous service, entering price-quality regulation with scope for substantial cost cutting and no meaningful competition. This is simply not the case:

   3.1 **Chorus is lean, possibly too lean:** While delivering New Zealand's largest ever public-private partnership on time, to a fixed price contract and in advance of the demand required to pay for the investment, we also had to manage the effect of the copper pricing decision, which dramatically reduced our revenues for three years. These factors have driven us to continuously innovate, drive out unnecessary cost and strictly prioritise expenditure. This includes deferring efficient, but non-essential investment; for example, lifecycle management and longer-term asset management capability, the costs of which are only partly included in our PQP1 proposal.

   3.2 **Chorus' plans likely underestimate efficient expenditure:** Our PQP1 proposal is based on a business plan which is constrained by real world pressures, including operating outside debt metrics with a real risk of a credit rating downgrade. This plan is the basis of market guidance and 'bakes in' significant ambition to a degree that would not occur if a 'regulatory planning' approach had been adopted.

   3.3 **Expenditure plans reflect competitive pressures:** Our largest customers are also our competitors. These mobile network operators (**MNOs**) hold over 60%[1] fixed line broadband market share and have public goals to migrate 25%-40% of end-users off Chorus' networks. These actions reinforce expenditure discipline.

[1] Commerce Commission 2020 Annual Telecommunications Market Monitoring report.

3.4 **Undue focus on cost reductions:** In treating Chorus as if it were any other traditional monopoly supplier of a mature and homogenous service, the Commission has incorrectly assumed both that: (i) there are likely to be opportunities to reduce costs, and (ii) that its principal role is to apply pressure to Chorus' proposed expenditure to identify those opportunities. But unlike traditional monopolies, Chorus' network is new, Chorus' operating model is lean, and Chorus is still in the process of transitioning from building the network to operating it. The innovative and differentiated nature of Fibre Fixed Line Access Services (**FFLAS**) also presents opportunities for dynamic efficiency that the Commission is ignoring with its narrow focus on cost reductions.

4. The draft decision also misconstrues the nature of competition facing Chorus and wrongly suggests that fixed wireless access (**FWA**) is not a close economic substitute for fibre. While FWA is an inferior product, it can be attractive to cost-conscious end-users and it has the advantage of being an unregulated service delivered by vertically integrated providers who sit between Chorus and end-users. FWA is also likely to improve in future given the pace of technology change. MNOs are strongly incentivised to market FWA as a substitute for fibre as a way to reduce their reliance on FFLAS.[2]

5. The draft decision will tilt the playing field further towards the MNOs by tying up our incentive payments, which are critical for acquiring customers and supporting retail market competition, in more red tape and delay. This would disadvantage retail service providers (**RSPs**) who don't own mobile networks. We fail to see how this can be in the long-term interest of end-users.

6. We encourage the Commission to rethink its position in key areas in line with the evidence, otherwise the PQP1 decision will not deliver for consumers.

Expenditure cuts and exclusions will harm consumers in the short and long term

7. The Commission proposes substantial cuts and 'exclusions' to Chorus' PQP1 opex, base capex and connection capex allowances. The cuts are excessive, poorly justified and in some cases arbitrary. Specifically:

7.1 **Claims of base year inefficiency and over-forecasting, and assumptions of IT efficiencies are incorrect:** For corporate support opex and the overall base capex adjustment the Commission has misunderstood or misapplied Chorus information to justify large and arbitrary expenditure cuts. In fact our base year is efficient and the forecast reflects trends as we move from build to operate. The Commission's assumed efficiencies from IT capex optimisation are wrong by a factor of 5 and ignore that IT optimisation enabled efficiencies are already included in PQP1 forecasts.

7.2 **Changes to demand forecasts are an overreaction:** Independent experts and evidence of demand prove the integrity of Chorus forecasts, while the

[2] In the absence of clear product disclosure requirements, MNOs are marketing 5G fixed wireless as comparable to the upper tier of fibre broadband services. Vodafone, for example, claims consumers can "Enjoy download speeds of up to 750 Mbps (that's up to 7x faster than our Fibre 100 broadband plan" in its marketing material. This is significantly higher than speeds reported by other operators internationally, likely reflecting the use of peak rather than average speed performance.

MBIE 2020 construction pipeline report (which the Commission relies on) is an acknowledged outlier produced at a time of great uncertainty. The draft decision also uses the MBIE 2020 report to justify demand-based reductions in unrelated areas and computational errors multiply the impact.

7.3 **'Smoothing' of connection unit costs guarantees under-recovery:** Rolling costs forward from a build phase of high volume, mostly standard installations to a period of expected lower volume, and increasingly complex installations fails to recognise drivers of change in costs.

8. The proposed reductions and exclusions would be to the detriment of consumers in the short and long term. If adopted, the proposals would drive significant inefficient cost cutting, over and above the ambitious cost reductions already included in our PQP1 proposal. This submission provides the analysis and evidence to support changes to or reversal of each of the Commission's proposals.

9. In the table at the end of this Executive Summary, we set out the key recommendations for improvements to the draft decision on expenditure that would better promote the long-term interest of end-users. Implementing our recommendations would reinstate Chorus' proposed capex and opex,[3] including a reallocation of most innovation capex to address under forecasting revealed in post submission analysis.

Draft decision would be to the detriment of consumers

10. Chorus' Board has not yet decided how we would respond if the draft decision were adopted – impacts of this severity would take time to work through into a new business strategy. However, it seems likely that consumer outcomes would be worse than under our expenditure proposal due to the following plausible impacts:

10.1 A dramatic slowing in fibre adoption and the pace at which end-users opt for higher specification services if incentive capex is excluded (the draft decision on incentive capex would significantly harm the ability of RSPs that do not own mobile networks to compete with large MNOs).

10.2 Substantial reductions in discretionary expenditure, including efficient:

- Lifecycle investment, increasing risk and costs to consumers in later periods
- Investment sought by Chorus and the Commission to evolve asset management capability and improve longer term forecasting
- Network extension, product, technological and service quality innovation.

10.3 Further erosion of Chorus' and investors' confidence in the Commission to deliver on the policy intent of this regime, limiting our ability to gain shareholder support for investment. More broadly, harm to New Zealand's image as a credible destination for investment, particularly in PPP-type arrangements, which would have a particular impact at a time when substantial infrastructure investment is needed.

[3] Forecast constant price dollars, PQ FFLAS only.

Chorus' incentive payments are beneficial and well justified; the draft decision to exclude them is wrong in principle and inconsistent with the IMs

11. Chorus' incentive payments are efficient, prudent, consistent with workably competitive market outcomes and promote competition in the telecommunications retail markets. The Commission should approve the proposed incentive payments as base capex and connection capex in its final PQP1 decision in December 2021.

12. The analysis in the draft decision has focused heavily on theoretical risks of incentive payments being set too high. It has missed the commercial context for incentive payments and the substantial risks to competition in retail telecommunications markets if incentive payments are set too low or not approved at all.

13. Chorus has been making incentive payments for many years. They are a core part of our business and commercial positioning and have encouraged fibre uptake. The incentive payments put forward in our expenditure proposal are based on historical offers that have been developed in consultation with RSPs.

14. Incentive payments have a positive impact on downstream competition. We know that our incentives are taken up in greater proportion by smaller, non-vertically integrated RSPs, which helps them compete with incumbent MNOs. The uncertainty caused by the draft decision is already harming RSPs' ability to plan their competitive offers for the coming year – if this is not resolved soon the draft decision will itself harm competition by creating uncertainty in retail telecommunications markets (smaller RSPs cannot wait until December to plan their activities).

15. The Commission's starting point should be to consider whether historical levels are reasonable (and we are confident they are) or if they need to be adjusted, not to set incentive payments to zero.

16. The draft decision to require an individual capex proposal before approving incentive payments is wrong:

    16.1 The conditions for deferral of the expenditure to individual capex do not apply and the Commission appears to be mis-using the individual capex category in the IMs because the expenditure is not uncertain.[4]

    16.2 The IMs do not permit the Commission to include connection capex in individual capex (the IMs are clear that individual capex must relate to one or more base capex categories in the base capex proposal).[5]

    16.3 Deferral and ringfencing do not bring benefits that would outweigh the considerable detriments of the individual capex proposal (described below).

    16.4 Our proposed expenditure is well justified – it meets the expenditure objective, is consistent with good telecommunications industry practice (GTIP) and supports competition.

17. In process terms, an individual capex proposal creates severe roadblocks to Chorus' ability to make incentive payments. If the individual capex process is not completed

[4] Fibre Input Methodologies, 3.7.12(3).
[5] Fibre Input Methodologies, 3.7.22(3)(b). Fibre IM Reasons Paper, footnote 1381.

in time for the revenues to be included in PQP1 prices, we would not be certain we could recover these costs: any wash-up would be subject to competitive pressure in PQP2 that may restrict recovery.

Chorus supports adjusted depreciation and a smooth transition, but there are better methods available

18. The draft decision avoids a revenue shock when we move into the new regime, which is welcome and reflects our understanding of the policy intent.

19. The draft decision to bring forward recovery of more of the financial loss asset (**FLA**) into PQP1, by way of alternative depreciation, is sensible and we support this in principle. However, it does not compensate for the expenditure cuts discussed above.

20. The best way to bring forward asset recovery, including of the FLA, is a tilted annuity method (either of the methods we have previously proposed to the Commission) because tilted annuity better reflects the underlying economic drivers of our asset stranding risk.

21. The draft decision is seeking a more straightforward approach than tilted annuity. The best 'simple' option would be to shorten the FLA life to 8 years and then depreciate it using the straight-line method. This would be straightforward to implement, easy to understand and would address stranding risk for the FLA by fully removing it over the next 2-3 regulatory periods (depending on the length of PQP2).

22. The diminishing value (**DV**) method proposed in the draft decision is reasonable for PQP1 but is not likely to deliver optimal outcomes in future – if DV is applied for PQP1, we would ask the Commission to reconsider the alternative depreciation method for PQP2 and beyond.

23. If the Commission accepts Chorus' separate submission[6] that the asset stranding allowance should be reconsidered at each price determination, an allowance of 60 basis points for PQP1 would be consistent with the evidence. The alternative depreciation amount for PQP1 could then be adjusted to reflect the higher allowance. We believe this would be a better balance between an input methodology (**IM**) allowance and adjusted depreciation to address stranding risk than the current 10 basis-point allowance provides.

Quality standards requiring reporting against targets are preferred for PQP1; the proposed availability standards are unachievable

24. Our business depends on offering fibre services of a quality that supports the best broadband in New Zealand. The market context and other regulatory requirements create strong incentives to provide services at the level of quality end-users demand, so the role of quality standards under PQ is limited. Current quality settings are delivering well for end-users.

25. The Commission should apply quality standards that require reporting against targets for PQP1. This is necessary because the data available does not support the

[6] See Chorus submission on the proposed November 2021 IM amendments, 8 July 2021.

setting of robust, effective, outcomes-based standards that will incentivise the right outcomes for end-users. It is better to use PQP1 to gather information and develop effective standards for the long-term.

26. Importantly, quality standards should reflect the level of expenditure allowed in the decision – where the Commission proposes substantial cuts to expenditure, a lower quality standard is to be expected. The link between expenditure and quality is a fundamental part of price-quality regulation and a decrease in expenditure, or increase in quality standards, relative to that proposed risks an unworkable outcome.

27. Whether or not targets are reported against or set as outcome-based standards, it is important they be adjusted to avoid capturing expected events. They must also be consistent with the purpose of quality standards and the objective of holding quality stable for PQP1.

28. The proposed standards for availability are far too challenging and would require a significant increase in network reliability compared to that required by the UFB agreements which is currently delivering a highly reliable service to RSPs and end-users. The proposed availability standards would also require a commensurate increase in expenditure which was not proposed and is not funded under the draft decision. In fact, under the proposed availability standards Chorus would expect to breach every year. It seems clear the Commission did not intend this outcome. We recommend the proposed unplanned downtime targets are aggregated over geography and time to avoid penalising expected events and creating poor incentives to favour smaller areas.

29. If the Commission requires a separate standard for port utilisation the proposed standard should be adapted to be consistent with our customer contracts (and likely anchor service regulations) by increasing the maximum utilisation threshold to 95% and excluding congestion resulting from network failures. The requirement to count congestion as downtime should be removed to prevent double-jeopardy.

Other settings are generally reasonable, but more wash-ups are required and the price compliance requirements are not workable

30. We support the proposed smoothing mechanism within PQP1 – given the rapidly increasing number of fibre connections, it is appropriate to smooth revenues based on both CPI and forecast demand growth.

31. We support the proposed wash-ups, but additional wash-ups are also needed. These are wash-ups for: the difference between forecast and actual cost allocator metrics, capex in the final year of a regulatory period and CPI used for revenue path smoothing.

32. We are pleased the wash-ups are symmetric and unconstrained, as required by the Act. We agree there is no need for service-specific price caps or an undercharging wash-up limit.

33. The requirement to produce a price compliance report at the start of each year and before every change in prices is onerous and unworkable – it would require multiple price compliance reports each year. A better solution is to require a price

compliance report once each regulatory year – by June in each year, as this will align with our board reporting and price setting cycles and ensure the most accurate information is available at the time of forecast price compliance reporting.

34. Also, the application of CPI for the revenue path roll-forward requires use of data that would not be available at the start of a regulatory year and would also under-compensate Chorus over the regulatory period. We suggest changes to resolve these points.

35. We mostly agree with the Commission's proposed process for establishing the scope of FFLAS based on the location of the end-user. However, where the location of the end-user is not known, but we can establish that FFLAS is provided substantially for the benefit of end-users in an LFC area, as a matter of principle it should be ID-only FFLAS.

36. In **Appendix D**, we provide a list of core FFLAS services that we offer to RSPs, which is a more useful point of reference for stakeholders than the list in Attachment I of the draft decision.

Summary of key recommendations

37. The table below summarises the key recommendations put forward by Chorus in this submission.

	Commission proposal	Chorus response and recommendation
Expenditure		
1	Adjust 'base year' and forecast corporate opex	We strongly oppose this adjustment to corporate opex which overlooks important business and regulatory context. Our base year is efficient, and forecasts reflect a larger network to service, increasing allocation to FFLAS and lower capitalisation of labour and overheads. **Recommendation:** Retain the Chorus base year opex approach, reinstating $21.8m corporate opex.
2	Reduce opex to reflect benefits of IT investment	The Commission uses the incorrect expenditure ($67.3m vs a subset of $12.7m) and ignores the fact benefits from this investment are already included in our proposal. **Recommendation:** Reverse proposed cuts, reinstating $21.3m opex.
3	Exclude 'innovation capex' and treat as 'individual capex'	Uncommitted innovation capex is a good candidate for the individual capex mechanism. Committed innovation capex should be approved and the balance should be reallocated to address under-forecasting in other areas revealed in post submission analysis. **Recommendation:** Approve $3m 'innovation capex' and reallocate $31.4m across other base capex categories.

	Commission proposal	Chorus response and recommendation
4	Exclude 'incentive capex' and treat as 'individual capex'	We strongly oppose this exclusion. Incentive expenditure is well justified, prudent and efficient. This inappropriate use of the individual capex mechanism will disrupt the market, lessen competition and harm consumers. **Recommendation:** Retain $35m incentive in base capex and $10.2m in connection capex.
5	Apply 5% reduction to base capex allowance	This reduction is based on incorrect assumptions and judgements. When corrected no reduction is justified. **Recommendation:** Reverse the 5% reduction to base capex, reinstating $28m base capex.
6	Adjust demand forecast using MBIE 2020 construction pipeline report in place of Chorus demand forecast	MBIE's 2020 report is not reliable as it was produced at a time of uncertainty and linkages to expenditure are over-estimated. The integrity of Chorus' demand forecast is proven. **Recommendation:** Retain Chorus demand forecast and reinstate $1.4m opex, $5.8m base capex and $20.8m connection capex.
7	'Smooth' connection unit costs	The Commission's approach is not appropriate. It trends forward unit costs from a period with high volumes, mostly standard installs to a period when the reverse applies. Chorus' forecasting approach, to take account of the drivers in changing costs, is prudent and efficient. **Recommendation:** retain unit rates proposed by Chorus, reinstating $20m connection capex.
8	Adopt alternative cost escalators	We accept the Commission's proposed approach. Real Price Effects forecasts will be updated prior to decision. **Recommendation:** Adopt Commission escalators (with updated RPE estimates).
9	Remove $9m for network maintenance (mix of demand and 'pits and manholes') costs	This comprises $1.4m from lower demand forecasts (refer item 6 above) and $2m[7] from a public safety programme. It also applies cost allocation incorrectly. **Recommendation:** Reverse proposed reduction, retaining $9m opex.
10	Treatment of NZ IFRS 16 leases	Under NZ IFRS 16 leases are capitalised. For presentational purposes we showed lease costs as opex

[7] The Commission removes the entirety of Chorus' $7.6m spend on this programme, when the FFLAS proportion included in our proposal is only $2m.

	Commission proposal	Chorus response and recommendation
		rather than capex. The draft omits lease costs from both opex and capex. **Recommendation:** Assess leases opex and capex view, and adjust the allowance to include leases expenditure omitted from the draft decision ($26m base capex for MAR).
Non-expenditure		
11	Apply adjusted depreciation to the FLA, using diminishing value method	The intent and underlying principles are supported but a tilted annuity method is preferred as it reflects the price trends that are driving Chorus' stranding risk. **Recommendation:** Apply alternative depreciation method to address stranding risk and bring forward asset recovery. Preferably by using a tilted annuity method as proposed by Chorus, although the Commission's method is reasonable for PQP1.
12	Apply quality standards using limits on (a) Layer 1 unplanned downtime by POI area; (b) Layer 2 unplanned downtime by POI area; and (c) port utilisation	A standard based on reporting against targets is more appropriate for PQP1 – data quality limitations cause real challenges in setting meaningful standards. If outcome-based standards are required, the availability standards are unduly onerous and would not be feasible to comply with – this appears to be unintentional. **Recommendation:** Apply a reporting standard. Or, if outcomes-based standards are required, aggregate the availability standards over geography and time and adjust the performance standard to align with other obligations.
13	Apply wash-ups for initial RAB, pass-through costs, connection capex, individual capex and crown finance repayments	Agree with the Commission's proposed wash-ups, but additional wash-ups are needed. **Recommendation:** Also apply wash-ups for cost allocator metrics, capex in the final year of a regulatory period, and CPI as used in the revenue path.
14	Require price compliance reports at the start of each year and before any change in prices	This requirement is onerous and unworkable – it would require multiple price compliance reports each year. **Recommendation:** Revenue compliance reports should only be required once per year – by June to align with price setting processes.
15	In determining the scope of FFLAS, the location of the end-user determines where	The Commission's proposal is broadly reasonable and reflects feedback provided by Chorus.

	Commission proposal	Chorus response and recommendation
	the service was provided and thus whether PQ regulation or ID-only regulation applies	**Recommendation:** Where the location of the end-user is not known, if we can establish that FFLAS is provided substantially for the benefit of end-users in an LFC area, it should be ID-only FFLAS.

Introduction and framework

Introduction

38. This submission is Chorus's response to the Commission's Draft Decision on Chorus' price-quality path from 1 January 2022, dated 27 May 2021 (**draft decision**). It should be read alongside our other submissions responding to the Commission's consultations on the *[Draft] ID Determination 2021,* the *Draft Guidance on* Section *201 - Geographically Consistent Pricing*, and the *[Draft] IM Amendments.*[8]

39. This submission is accompanied by expert reports from NERA (*Customer incentive payments and the long-term benefit of end-users*) and Sapere (*New Zealand Residential Building Consents, 2021 to 2025*). We also attach an updated expenditure summary (an RT01-style presentation).

40. Some material in this response and the NERA report is confidential to Chorus. We have provided public and confidential versions of these documents.

Regulatory framework

41. The Regulatory Framework section of the draft decision[9] makes a range of assertions around Chorus' business drivers for PQP1 (e.g. that we may have incentives to over-forecast or to time expenditure inefficiently). These are based on a misunderstanding of Chorus' business context and a misinformed belief that Chorus has similar drivers as traditional monopolies regulated by the Commission.

42. We refer the Commission to our previous submission on the Process & Approach consultation,[10] which explained why Chorus already has positive incentives to deliver price and quality outcomes that deliver for consumers. There is a greater risk of distortion being caused by regulatory error (e.g. in cutting prudent and efficient spend) than by the theoretical incentives discussed in the draft decision.

Application of Part 4 precedent

43. As the Commission is aware, Chorus faces real and increasing competition and rapid technology change. The fibre business is also still growing and has not reached a fully mature scale. This means that the broad regulatory assumptions that apply to Part 4 firms are generally not applicable to Chorus. We have identified areas where a better approach that reflects our commercial situation should be applied.

44. However, there are useful implementation and operational details and learnings from Part 4 regulation which we can draw on to set the Part 6 requirements in an efficient way. This submission also identifies technical areas where utilising approaches adopted under Part 4 would work better than some proposals in the draft decision.

[8] Chorus, *Submission on Draft Information Disclosure Determination*, 8 July 2021; Chorus, *Submission on Section 201 Draft Guidance*, 24 June 2021; Chorus, *Amendments to the Input Methodologies for Fibre, August 2021 amendments*, 24 June 2021, Chorus, *Amendments to the Input Methodologies for Fibre – November 2021 amendments,* 8 July 2021.
[9] Pages 42-50.
[10] Chorus, Submission on Fibre Regulation Process and Approach, 14 October 2020, paragraphs 14-19.

Expenditure

Summary

45. In this section we respond to Chapter 4 (expenditure) of the draft decision. We cover:

    45.1 **Efficiency and over-forecasting**: We strongly disagree with the Commission's proposed cuts based on a view that our costs are inefficient, and our forecasts are too high. In particular, the base year is efficient, cost reductions as we transition from build to operate are already built into forecasts including those enabled by IT investment directed at business efficiency (noting the extent of IT capex optimisation is incorrectly calculated in the draft PQ decision).[11]

    45.2 **Innovation:** We agree that uncommitted innovation capex should be treated as individual capex. However, the associated base capex should be reallocated to offset under-forecasting in other areas identified in our post submission analysis including new property developments, resilience, site sustain and IT lifecycle.

    45.3 **Incentive payments**: The Commission's proposal to treat incentive capex as individual capex is not appropriate, would disrupt market momentum, impact retail competitiveness and increase cost and risk to consumers. The Commission has enough evidence to assess and approve proposed incentive payment capex now.

    45.4 **Demand forecasting:** The Commission's proposal to adopt MBIE's December 2020 construction pipeline report is not robust. The 2020 report should be rejected as an outlier and, in any event, computational errors mean the flow-through is significantly overstated.

46. Having carefully considered the Commission's proposals we recommend the Commission reinstate all of our proposed opex and capex[12] and retain incentive capex within the base capex and connection capex allowances. Consistent with the evidence presented in this section and supporting appendices we recommend the Commission approve the following first regulatory period (**PQP1**)[13] expenditure allowances:

[11] Commission, *Chorus' price-quality path from 1 January 2022 – Draft decision*, 27 May 2021, ('draft decision') significantly overstates the proportion of IT capex investments that could be expected to reduce opex costs (refer draft decision paragraphs 4.159 and 4.221-4.223).

[12] With some reallocation, and noting we agree with the Commission's proposed cost escalation approach (draft decision, 4.106 – 4.136), updated for the most recent data, so amounts will change in nominal terms.

[13] Price quality (PQ) path for a regulatory period (PQP), is the term used in the Commission's draft decision. PQP has the same meaning as the term regulatory period (RP), that we used in our expenditure proposal. We adopt the 'PQP' term in this submission but note that it is interchangeable for RP or regulatory period.

Expenditure type	December proposal	Draft decision	Recommendation
Base capex	$642.1m	$535.2m	**$642.1m**
Connection capex	$335.4m	$284.0m	**$335.4m**
Opex	$526.7m	$435.7m	**$526.7m**

47. We provide a table in Appendix A1 that responds to each specific proposal from the expenditure chapter of the draft PQ decision. Finally, at the end of this chapter we summarise movements between our original proposal, the draft decision, and our updated proposal. This section is supported by:

    47.1 Appendix A1 - Responses to specific proposals

    47.2 Appendix A2 - Incentives payments expenditure

    47.3 Attachment - Updated expenditure summary (RT01-style presentation)

    47.4 Attachment - Sapere, *New Zealand Residential Building Consents, 2021 to 2025*

    47.5 Attachment - NERA, *Customer incentive payments and the long-term benefit of end-users*.

48. Unless specifically noted, we use PQ FFLAS values expressed in 2020 dollar terms throughout this section.

Our proposal is on the lean side of efficient

49. The Commission proposes several cuts based on speculation that our base year costs may be inefficient, or our forecasts may be over-stated, including to:

    49.1 further reduce opex by $21.3m to reflect gains from IT capex investment

    49.2 reduce corporate support opex by $21.8m[14] due to doubts about base year and forecasting

    49.3 reduce maintenance opex by $9.0m due to forecasting and insufficient justification

    49.4 reduce overall base capex by 5% for over-forecasting

    49.5 reduce connection capex by $20.4m based on extrapolating unit cost trends.

[14] Draft decision paragraph 4.214 refers to the adjustment of $21.8m as accounting for "efficiencies and to remove unjustified spend". Draft decision Paragraph 4.217 explains that the efficiency adjustment is a reduction of 12.8%. We therefore deduce that $18.5m of the $21.8m reduction relates to the efficiency cut and the remaining $3.3m relates to the unspecified "two regulatory overlays" referred to in Table 4.1 of the draft decision and deemed "unjustified" by paragraph 4.214.

50. For IT capex, the Commission has used the incorrect amount of IT capex ($67.3m vs. a subset of $12.7m) and its proposed opex adjustments incorrectly duplicate efficiency gains already built into our proposal.

51. For the other items, the Commission is naturally concerned about the risk of approving too much expenditure. This risk is low given Chorus' business and market context, our approach to the PQP1 proposal and a holistic view of efficiency. A more balanced evaluation by the Commission will show proposed capex and opex are on the lean side of efficient and that cuts proposed in the draft PQ decision should be reversed.

52. Below we set out why the Commission should evaluate our proposal with the understanding that:

    52.1 our base year is on the lean side of efficient and our plans reflect cost reductions resulting from completion of UFB build and slowing connection growth

    52.2 our most efficient path is likely to involve increasing one-off and recurring expenditure in the near to mid-term to support optimal management of longer-term lifecycle costs, and, an increasing allocation of costs to FFLAS services

    52.3 extrapolating past trends is unreliable because our business is not in a steady state

    52.4 basing our proposal on our business plan is good practice, but has a built-in bias toward under-forecasting

    52.5 the consequences of cuts are asymmetric given our lean base, low side forecast bias, competitive pressures, and generous arrangements for sharing the benefit of any underspend.

53. FY2019 is a reasonable and efficient base as it reflects arrangements that have been in place since demerger, and the intervening cost pressures (driving sustained cost control, commercial arrangements incentivising efficiencies) and market scrutiny. We provided evidence of this to the Commission.[15] We made negative step changes to reflect the removal of non-recurring items and positive step changes included adding the opex view of our corporate office leases (which were not included in the base year).

54. Our context means we are operating on the lean side of efficient. This is because for the past ten years Chorus has been delivering one of NZ's largest infrastructure projects to a fixed price contract. We have done this as a listed company, where investor focus on cost control and capital prioritisation has been relentless. We note:

    - we have to prioritise network build and investing to meet higher than expected demand for fibre service
    - revenue loss through adverse regulatory decisions[16] and, more recently, the competitive actions of our largest customers

[15] Refer to RFI012 provided to the Commission (tranche 1 cover memo, page 2).
[16] Copper price decisions by the Commission severely impacted the finances of Chorus and necessitated radical, business wide changes to strip out prudent but non-essential cost alongside suspension of dividends.

- capital market disciplines coupled with extremely tight financial constraints.[17]

55. Further, the Commission should fully consider the dynamics of our labour cost forecasting (from a FY2019 base) including:

    55.1 a growing allocation of shared costs to FFLAS services, in particular support opex as FFLAS volumes grow and non-FFLAS services decline

    55.2 reducing capital expenditure results in a lower capitalisation rates for internal labour and overheads. FY2019 is a period of peak build and connect activity which results in a high proportion of labour and overheads being capitalised relative to the PQP1 period forecast.

    55.3 declining capital programme also results in a larger proportion of total overhead costs in corporate support opex, which do not scale up or down linearly with capex cycles.

56. These changes result in material upward cost pressure and must be fully accounted for in any analysis of base year efficiency. We are concerned that Commission has not appreciated this and, if it fails to do so in the final PQ decision, will reach the wrong conclusions, forcing inefficient cost cutting. This will inhibit Chorus' ability to deliver on our PQP1 proposal, while compliance with onerous proposed Information Disclosure and myriad other compliance requirements will force further compromise. This will be to the detriment of our customers and end users.

57. Our context is fundamentally different from a mature monopoly entering regulation with room for efficiency-enhancing cuts. This view is supported by the Independent Verifier's review and reinforced by AMCL's findings[18] that:

    - we have relative strengths in delivery and financial decision-making, but
    - our approach to maintenance is primarily reactive
    - our budgets are funding constrained, and
    - we do not yet have a good view of longer-term asset requirements.

58. This mix of relative strengths is appropriate and unsurprising given our context. In contrast, a mature monopoly would typically operate with relatively unconstrained budgets and a primarily time-based replacement approach to lifecycle management.

59. For a mature monopoly entering incentive-based regulation, it may be normal to expect the first few regulatory cycles to involve steadily tightening budgets and trimming away unnecessary lifecycle interventions in favour of a more sophisticated condition-based approach. However, this expectation doesn't apply in our case. In contrast, we should expect:

    - a period of increasing investment in capability and asset knowledge designed to support optimisation of future lifecycle needs, and

[17] Chorus has been at real risk of credit downgrade and remains operating outside debt metrics.
[18] Asset Management Consulting Limited (AMCL), an Institute of Asset Management-endorsed assessor completed an asset management capability assessment of Chorus against ISO55001, an international asset management system standard, and its own Asset Management Excellence Model. We provided AMCL's report to the Commission in RFI009.

- gradual phase-in of more proactive maintenance programmes as our asset knowledge improves, our assets age and our funding becomes less constrained.

60. Our proposal includes some early and modest movement in this direction. Over successive periods there is scope for this to build, with the benefits coming through more optimal management of risk, future maintenance and renewal pressures – not efficiency diminishing cuts.

61. Our other key point of difference is the degree of competition from other networks and the price sensitivity of end users. This reinforces our drive to efficiently promote uptake and more generally to ensure our services strike an optimal (and attractive) balance of cost and quality.

Ambitious, uncertain future cost reductions are baked into PQP1 proposal

62. Before the end of PQP1 Chorus will complete the contracted UFB programme and connection growth will slow. This transition from 'build to operate' is a major shift, reflecting the changing demands on our business. These changes will result in a smaller business with significantly lower capital expenditure, both of which are reflected in our PQP1 proposal. By 2024:

    - total expenditure will have declined by 37%
    - recurring cost per connection (capex and opex) will be lower
    - Chorus use of contract labour and total FTE both decline materially[19]
    - we expect to have a different field operations contract model as workloads decline and our service company labour force will be significantly smaller.[20] Worker welfare and technician and service company sustainability are a consideration in this context.

63. These forecast reductions certainly do not indicate that the base year is inefficient. They reflect that our business continues to evolve and is embarking on a major change process, that entails a shift in capability requirements coupled with a significant reduction in overall activity.

64. Delivering the reductions above, the benefits of which are reflected in our PQP1 proposal, will be extraordinarily challenging and is by no means certain. A key risk, alongside managing complex internal and service company change and downsizing, is minimising knowledge loss and the impact that a ~50% scale reduction will have on unit costs.

65. These cost reductions are partially enabled by a subset of our proposed $12.7m Business IT optimisation investment,[21] though most are not. Rather, they are delivered through hard work, creative thinking and innovative procurement solutions

[19] Refer to Labour Analysis model provided to the Commission under RFI021.
[20] **[CHORUS CI**

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[21] The draft decision (paragraph 4.223) states IT capex directed at 'cost-out' is $67.3m. This is incorrect. The correct amount is a subset of the $12.7m sub-category 'Business IT customer experience and optimisation'. The gains from this investment are included in PQP1 forecasts and have been clearly communicated through the RFI process, and associated interviews, to Commission staff and consultants.

by Chorus staff and our service company partners. However, the reductions are by no means guaranteed and Chorus is exposed to significant delivery and cost risk.

66. A key challenge for Chorus in delivering the ambitious cost reductions in our proposal is mitigating upward cost pressures. These ambitious reductions, and the resulting lowering of recurring opex and capex per connection, occur at a time when:

    66.1 declining total volumes and expenditure reduce economies of scale and drive upward cost pressures

    66.2 the FFLAS network is more geographically dispersed and less dense, increasing the cost to connect and maintain services while end user demand for faster speeds and data use continue to grow significantly

    66.3 copper volumes will decline faster than FFLAS volumes increase, further reducing overall economies of scale and driving a greater allocation of shared costs to FFLAS services

    66.4 we are implementing a major operating model review and building the human, information and systems capability needed to optimise lifecycle management of the newer FFLAS network. While the benefits of this major change are included in the PQP1 proposal the costs are not fully known, so are only partially included

    66.5 we are implementing a new regulatory regime with significant compliance requirements that drive one-off implementation costs and higher ongoing operating costs, the scale of which were not anticipated in the PQP1 proposal.

Cost cutting is not always efficient

67. It is simplistic and unhelpful to equate cuts with efficiency. This is particularly true for PQP1, which we are entering with a very lean cost base – shaped by the context and pressures outlined above – and a reduction in scale.

68. While we are targeting ambitious cost reductions as we transition from build to operate, the biggest efficiency prize from here (aside from spreading fixed or shared costs by growing connections) will be effective management of longer-term lifecycle costs as our network ages. This requires an increase, not a decrease, in investment in capability, improving asset knowledge and introducing more proactive maintenance (e.g. inspections, investigations and remediation or life extension work).

69. The IMs and recent draft decisions for PQ and ID require investment in asset management knowledge and capability and evolving maintenance practices. They also, alongside a raft of other regulatory requirements applying to Chorus including legacy settings from previous regulatory regimes, result in a mind-bogglingly complex and onerous series of compliance requirements.

70. In this context, cutting costs over and above those included in the PQP1 proposal, would be short-sighted and inconsistent with the long-term benefit of end users. There are numerous examples from other sectors of shorter-term cuts compromising asset management practices and driving longer-term costs – for example:

70.1 Transpower's 'glide path' strategy of minimal investment ended with several high-profile network failures and was followed by a lengthy period of elevated investment and works-driven disruption to services.

70.2 Aurora's recent customised price-quality path will drive years of disruption and steep price rises as it executes a major programme of catch-up investment directed at arresting serious deterioration.

70.3 significant rates rises and years of disruption and capacity constraints lie ahead as water infrastructure providers address under-investment.

71. These examples illustrate how costs can mount rapidly when firms are forced to cope with a wave of reactive renewal for assets that could have been managed in a more planned, steady, less disruptive – and ultimately more efficient – fashion. We also emphasise that excessive cost cutting compromises investment in future capability, including asset management and elevates the risk of adverse health and safety and worked welfare outcomes.

72. Our proposal includes only modest expenditure of this nature, consistent with PQP1 still being a period of transition with formative regulatory arrangements and an ongoing focus on promoting uptake. It is not reasonable to cut this expenditure further, nor to expect cost-out benefits to arise from early asset management investment – it's more likely we will develop a firmer view of the scale and extent of additional investment needed beyond PQP1 to prepare for future lifecycle management.

The risk from making cuts is asymmetric

73. As above, there is clearly significant potential for cuts to drive poor outcomes and be to the detriment of consumers. On the flip side, there is relatively limited risk of poor outcomes from approving proposed expenditure.

74. Without an IRIS (or similar) arrangements in place for PQP1, efficiency sharing will still occur through the PQP2 reset process. Sharing will not be well calibrated or consistent, but with a short period until the first reset, sharing is skewed in favour of end users.

75. The following table illustrates this point by showing the relatively small portion of any underspend that is retained by Chorus. The bulk of any underspend automatically flows through to lower MAR (and hence prices) in future regulatory cycles. This mitigates the risk of end users paying too much if allowances are set 'too high'.

Table: Sharing ratios for efficiency gains are inconsistent but favourable to end users

	PV of $1 saving[1]	Portion of gain retained by regulated firm[2]				
		10 years Prior to PQP1	Year 1	Year 2	Year 3[5]	Transpower (RCP3)[6]
Opex[3]	$22	0%	12%	10%	10%	22%
Capex[4]	$1	0%	28%	21%	21%	24%

Notes:

1. Present value (PV) calculation uses a discount rate of 4.5%.
2. First-order estimate of value not flowing to lower MAR, depending on year the saving is realised.
3. Opex scenario assumes a permanent reduction in a recurring (annual) cost.
4. Capex scenarios assume a change in the cost of a capitalised asset with a 10-year asset life.
5. We assume partial capture of efficiency gains for the final three half-year periods.
6. Current settings for Transpower, which are calibrated and consistent, are shown for comparison.

76. On the likelihood side of the equation, the risk is also low because:

    76.1 we are starting from a lean cost base (as above) where 100% of efficiencies achieved delivering UFB to a fixed price contract have been transferred to consumers

    76.2 we have an over-riding strategic incentive to protect and grow value by ensuring we attract and retain fibre customers through efficient investment that delivers attractive quality and prices

    76.3 we recognise the repeated nature of evaluations and consciously avoided taking a 'bid-high' approach.

77. As well as being necessary to meet certification requirements, the approach of putting forward a good faith view of expenditure serves all parties well, provided it is met with a balanced approach to evaluation. It would be counterproductive and destabilising to establish a pattern where we had to expect big cuts and take a conservative approach to our forecasting in anticipation.

Trending has limited value

78. The draft PQ decision proposes several large adjustments based (at least in part) on extrapolating historical trends. These include:

    - connection unit cost forecast
    - corporate support opex base year and forecast
    - overall base capex.

79. This is not appropriate and our forecasts should be evaluated with the clear understanding that we are not in a steady state. Over the forecast period:

    - our build programme will scale down

- our network will continue to grow and become more geographically dispersed, with larger distance between connect activity groups, and an increasing proportion of complex installations as we target later adopters
- our overall scale of in-field activity will decline markedly with less activity to attribute management system and other fixed costs across
- shorter-lived assets will approach their first renewal cycles, and
- we will begin adapting longer-lived assets such as buildings and associated services to a post-copper phase of their lifecycle.

80. These dynamics mean that extrapolation from past trends cannot provide a good guide to future requirements.

81. The Commission clearly understands that the scale of our build programme will decline but does not appear to have factored in the other changes. All place upward pressure on our costs that are only partially kept in check through the benefits of increasing connection numbers. In this context, it is not surprising to see various cost categories display non-linear trends – and extrapolation is clearly not a robust basis for making cuts.

Using underlying business plans is good practice, results in lower forecasts

82. The Commission's reservations about our proposal being adapted from business-as-usual planning are misplaced. We agree this is less 'clean' to evaluate, but in every other respect it is the best approach – it efficiently leverages internal resources and knowledge, drives improvements in annual planning and creates business visibility, awareness and buy-in to the proposal.

83. The biggest downside of this approach is that, when coupled with financial pressures, planning optimism, and a relatively weaker view of longer-term lifecycle cost, it tends to under-forecast efficient cost in the outer years of the planning period.

84. We note, contrary to the Commission's claim, we have a clear and persistent track-record of under-forecasting capex in the outyears (i.e. every year beyond the budget year) of our business plans. This is true for eleven from twelve observations across our last four business plans.[22]

85. Given our context, our internal planning is geared towards producing realistic but lean forecasts through an interplay of bottom-up knowledge and top-down ambition. Part of our proposal preparation process has been promoting change in this process in areas of:

- improving documentation and traceability of source modelling
- better harmonising common or related input assumptions, and
- challenging investment and finance managers to consider out-year cost pressures.

86. We also extended the proposal preparation and governance process beyond the normal business planning cycle. This allowed us to bring in additional post-June

[22] In each case, the observation compares an outyear forecast with actuals (where available) or updated forecasts from later business plans. The three observations for which actual outturn is available all show under-forecasting.

information and assurance, and to test that the forecast is fit for purpose for a regulatory proposal. This process resulted in some variances to the business plan figures, some of which the Commission has described as 'regulatory overlays' and proposed removing. We have provided the Commission with extensive information on these adjustments.[23] They are well justified and should not be removed.

87. This is the first iteration of a process of adapting our planning over time in a way that better meets both regulatory and other business needs.

88. It is highly likely the alternative approach – a separate regulatory forecasting exercise – would adopt a less constrained view and produce a higher forecast with more investment in asset information and proactive maintenance, and bigger uplifts in unit costs (due to the declining scale of in-field activity). In other words, a regulatory forecaster would be less conditioned toward producing lean outcomes and more attuned to identifying potential adverse cost trends and risks.

89. In addition, experience from other firms with repeat regulatory cycles is that adopting a separate regulatory forecasting exercise creates a disconnect between regulatory planning and business planning. This is to the detriment of both processes, and associated performance management, so we have sought to learn from others and bypass this pitfall.

Cuts should not anticipate prospective efficiency gains

90. The Commission has proposed cuts to account for 'over-forecasting' without explaining how it has thought about prospective efficiency gains.[24]

91. The clear precedent from New Zealand's only other firm with regular, bespoke regulatory cycles is that prospective efficiency gains – i.e. gains that are hoped for but uncertain – should not be built into allowances unless the costs of pursuing those gains are explicitly approved. More completely, the precedent is:

    - economy-wide changes in productivity can be included as a trend factor (but tend to be modest)
    - firm-specific outperformance may be included if, for example, IT capex explicitly directed at cost reduction is also approved. Alternatively, both items can be omitted, but this skews incentives toward very quick payoff initiatives
    - other efficiency gains should be captured as they are revealed and not built into allowances prospectively.

92. This principled and mature approach to regulation preserves incentives for the regulated firm to pursue sustainable, long-term outperformance, shares any realised gains with end users, and avoids establishing counter-productive incentives to obscure potential efficiency gains.

93. If applied consistently over time, this approach appropriately internalises the risk regulated firms face when pursuing uncertain efficiency gains (e.g. through change

[23] Refer to RFI021 provided to the Commission and Our proposal, Modelling and Cost Allocation report available at https://comcom.govt.nz/__data/assets/pdf_file/0019/234361/Chorus-Modelling-and-cost-allocation-report-16-December-2020.pdf

[24] Draft decision, paragraphs 4.138.4, 4.167-4.170 (base capex), 4.174.1, 4.180-4.181 (connection capex), 4.68-4.72 (corporate support opex), 4.159 (IT opex efficiency)

programmes or transformation initiatives). This should in turn support the kind of realistic, ongoing, appropriately resourced business improvement efforts that consistently deliver the best, most enduring gains over time.

94. On a related point, it is also not clear how the Commission has assessed our track record of differences between forecast and actuals in our historic planning. There are three key considerations that should be addressed:

    94.1 regulatory reporting is new and accounting treatments have changed over time, so historical comparator figures are not fully reliable. For example, historical figures for connection capex unit costs do not include customer incentive capex, and corporate opex base year does not include corporate lease costs

    94.2 some portion of differences between historical forecasts and actual outturns will be due to realisation of efficiency gains (or losses) that should not (as set out above) be built into regulatory allowances

    94.3 observed differences between the first (budget) year of any forecast and actual expenditure are not indicative of how longer-horizon forecasts will perform. The budget year and the outyears of business plans have different purposes and present a different forecasting challenge. Budget years are treated as a hard limit once set, so underspend is more likely than not. Outyears should be a best view of likely outturn but tend to err towards optimism – building in hoped-for cost reductions and under-playing potential increases.

95. Contrary to the Commission's argument, we have a clear and persistent track-record of under-forecasting capex in the outyears (i.e. every year beyond the budget year) of our business plans. As mentioned previously, this is true of eleven from twelve observations across our last four business plans.[25]

96. We recognised the risk to our proposal of under-forecasting but considered it manageable given the short regulatory period and, for capex, the connection capex mechanism and the option to apply for individual capex. There is little scope for further cuts, in particular for opex - for which there is no equivalent 'safety valve'. There is little doubt in our minds that cuts of the magnitude proposed in the draft PQ decision will lead to worse outcomes for consumers now, and in the future.

Chorus recommendations

97. In summary, the Commission should evaluate our proposal with the understanding that:

    97.1 our base year is on the lean side of efficient and our plans reflect cost reductions resulting from completion of UFB build and slowing connection growth

    97.2 our most efficient path is likely to involve increasing one-off and recurring expenditure in the near to mid-term to support optimal management of longer-term lifecycle costs, and, an increasing allocation of costs to FFLAS services

[25] In each case, the observation compares an outyear forecast with actuals (where available) or updated forecasts from later business plans. The three observations for which actual outturn is available all show under-forecasting.

97.3 extrapolating past trends is unreliable because our business is not in a steady state

97.4 basing our proposal on our business plan is good practice, but has a built-in bias toward under-forecasting

97.5 the consequences of cuts are asymmetric given our lean base, low side forecast bias, competitive pressures, and generous arrangements for sharing the benefit of any underspend.

98. We have explained above why our proposal is efficient, lean and we are not over-forecasting. For our responses to the Commissions specific proposals related to these themes refer to **Appendix A1**.

Innovation capex should be reallocated to address under-forecasting

99. The Commission proposes that $34.4m[26] of proposed innovation capex should be considered through a separate individual capex proposal rather than approved as base capex.

100. We agree that uncommitted PQP1 innovation capex is highly uncertain and accept that applying for innovation investment through the individual capex mechanism could be appropriate for PQP1.

101. Base capex remains appropriate for committed innovation projects that have cleared our internal approval processes and are in-flight. The Commission should approve $3m of base capex innovation spend for in-flight innovation projects.

102. The $31.4m balance should be reallocated across five base capex sub-categories to partially address under-forecasting revealed through our recent post-submission analysis.

Under-forecasting

103. Our post-submission analysis revealed under-forecasting across five capex sub-categories (see below). This reflects demand uncertainty and a bearish outlook at the time of business planning in June 2020 and when our proposal was submitted in December 2020. It is also consistent with our historical track-record of under-forecasting out-year expenditure and counter to the Commission's claim that our proposal likely incorporates significant over-forecasting.

104. In our analysis, we addressed this challenge by reallocating investment away from innovation, and by increasing the overall envelope of forecast expenditure.

105. The de-prioritisation of innovation investment is consistent with our softening appetite for long-horizon innovation investment due to worse than expected revenue settings. It is also consistent with our focus on ensuring we continue to drive uptake, including by sustaining network performance and customer experience. We note that removing long-horizon innovation investment does not impact near-horizon investment in business, product, and customer experience improvements.

[26] This is the correct constant price-terms PQ FFLAS figure for the innovation spend we originally proposed (not $36m as quoted in the draft decision).

106. Given the mounting pressures already apparent in the level of capex we proposed, it is not tenable to simply remove the capex previously allocated to uncommitted long-horizon innovation. This would worsen the likelihood that lifecycle capex during PQP1 is too low and will drive longer-term costs and challenges.

107. We consider it would be reasonable to pro rate the $31.4m balance of uncommitted innovation capex across the under-forecast base capex categories as shown below.

Sub-category	Amount ($m)	Purpose
Network sustain and enhance | resilience	4.3	To enable a more appropriate level of resilience investment than the overly constrained amounts provided in the FY21 business plan.
Network sustain and enhance | site sustain	4.4	To enable a more appropriate level of exchange building lifecycle investment than the overly restrained amounts provided in the FY21 business plan.
IT and support | network and customer IT	4.6	To enable a more appropriate level of lifecycle investment (including in treatment of Spark shared systems and preparing for future serco contracts) than the overly constrained amounts provided in the FY21 business plan.
IT and support | business IT	12.3	To enable a more appropriate level of lifecycle investment (including in datacentre compute capacity and security) than the overly constrained amounts provided in the FY21 business plan.
Extending the network | new property developments	5.8	To meet demand that is more robust than we were anticipating during the early phases of the pandemic in 2020.

Chorus recommendation

108. We recommend that the Commission should:

108.1 approve $3m for in-flight innovation capex

108.2 reallocate the $31.4m balance of our proposed innovation capex across other base capex categories to address under-forecasting identified in our post submission analysis.

109. Refer also to **Appendix A1** for our responses to the Commission specific proposals for innovation.

Customer incentives must be approved as connection and base capex

110. The draft decision does not reach a view on the merits of our proposed incentive payments and proposes they should be re-applied for as an individual capex project.

111. The Commission also identifies two preliminary thresholds (relating to definition of capex and geographic consistent pricing) before incentives can be assessed as individual capex and outlines an approach to assessing incentives, including a specific 'commercial rationale' test.[27]

112. It is wrong to shift our well-established incentive expenditure to individual capex:

    112.1 the conditions for deferral to individual capex do not apply – the expenditure is not uncertain, the connection capex component is not eligible for transfer, and deferral and ringfencing do not bring benefits that would outweigh the considerable associated detriments

    112.2 our proposed expenditure is well justified – it meets the expenditure objective, is consistent with good telecommunications industry practice (GTIP) and supports competition, and

    112.3 accordingly, the Commission's starting point should be to consider whether there are grounds to move away from continuation at proposed levels, not whether incentive capex should be set to zero.

113. We also sought expert advice from NERA (report attached, 'Customer incentive payments and the long-term benefit of end-users'), which supports our position.

Incentives must be assessed as connection or base capex before PQP1

114. The primary reason for the individual capex mechanism is to allow deferred consideration of large expenditure programmes that are too difficult to forecast at the time base capex is being proposed or evaluated but will become easier to assess later.[28]

115. A secondary reason, which the Commission identifies as its substantive justification in this case, is where the Commission is satisfied the programme should be ringfenced and separately reported.[29]

116. In any event, there is no legal basis for transferring connection capex to individual capex – connection capex cannot be treated as individual capex.[30]

117. The primary reason for using individual capex does not apply – customer incentives are a well-established programme of expenditure and any associated forecasting uncertainty would not be mitigated through deferral.

[27] Draft decision, Attachment G, G3 to G13. We refer to the test posed in G3.1 as the 'commercial rationale' test; a test that "…expected incremental revenues exclusively from the incremental end-users [or upgraded connections] should outweigh the incremental costs".
[28] IMs 3.7.22(4)
[29] IMs 3.7.22(5)
[30] IMs 3.7.22(3)(b), Fibre IM Reasons paper footnote 1381. The IMs are clear that individual capex must relate to one or more base capex categories in the base capex proposal.

118. The secondary reason (and substantive justification for the draft decision) is insufficiently compelling to justify deferral – reporting is equally possible for base capex,[31] and there is no clear benefit from ringfencing that would outweigh the detriments of deferral and ringfencing.

119. Connection capex deals with volume uncertainty where possible – we have appropriately proposed that uptake incentives are treated as connection capex. This helpfully neutralises the impact of volume uncertainty, but also means transfer to individual capex is not possible.

120. The Commission also argues that deferring approval will allow it more time to assess the proposed expenditure. This is not in itself a valid justification for transfer to individual capex. Nor is it necessary – the Commission has the information it needs to approve our proposed incentive capex.

121. Alongside these principled objections, we have a practical concern that there simply is not enough time to complete the individual capex process in time to avoid harmful disruption to our incentive programme and wider competitive dynamics as we enter PQP1. The harms from a pause (or material slow-down) would include:

- loss of internal momentum as our resources are stood down or redeployed
- loss of marketplace momentum as promotions are paused or scaled back
- harm to competitiveness of challenger RSPs relative to incumbent MNOs – noting that continuation of incentive programmes is likely factored into RSP plans and the draft decision is already causing uncertainty
- slowdowns in installation and upgrade uptake, meaning foregone consumer benefits from superior connectivity and higher MAR and prices over time
- compromise copper to fibre migration and PSTN shutdown.

122. The individual capex process involves two stages of evaluation and approval, with presumptions in favour of consultation and independent verification. To avoid disrupting our incentive programme we would need confidence regarding the outcome well ahead of January 2022. We do not believe it would be reasonable to require Chorus to prejudge the outcome of the Commission's decision on our PQP1 proposal by making an application in advance, and it simply is not possible to complete the individual capex process within what may be just a few working days (between the Commission reaching a decision on and the start of PQP1).

Ringfencing and reporting

123. The Commission does not adequately explain how ringfencing and individual capex reporting are beneficial compared to the alternatives. In particular:

123.1 individual capex reporting is not inherently superior (or necessarily any different) to other reporting – the Commission could include tailored reporting obligations in its PQP1 decision, include pan-LFC capex reporting obligations

[31] The draft ID decision requires reporting incentives under both expenditure and, for reasons we do not believe are valid, as part of pricing disclosures.

within information disclosure requirements, or require *ad hoc* reporting or information provision from Chorus, LFCs, MNOs or RSPs, and

123.2 it is not clear how ringfencing is intended to operate, let alone that it would have superior economic incentive and efficiency sharing properties compared to base and connection capex.

124. As described earlier, efficiency sharing ratios for base capex are generally skewed in favour of consumers for PQP1. That means a large share of any underspend against approved incentive capex will flow back to end users, with the retained portion providing an economic incentive to innovate and optimise customer incentive capex.

125. In other words, if we can find a more efficient way of achieving our goal of promoting uptake then we will retain some of the benefit. The retained benefit is then available to offset other cost pressures, support other investment priorities or enhance returns.

126. Sharing ratios work the same way for efficiency gains within connection capex, with the added feature that any underspend due to lower than forecast installation volumes is passed through in full.

127. In contrast, the mechanics of individual capex ringfencing are unknown but unlikely to be superior in terms of sharing efficiency gains with consumers while encouraging efficiency efforts and supporting responsive re-prioritisation. All these outcomes are consistent with the aims of incentive-based regulation.

Our proposed incentive expenditure is beneficial and well justified

128. The Commission has the information it needs to approve our proposed incentive capex:

128.1 we are proposing continuation of our existing approach to incentive investment – our context means we have an efficient starting point and incentive spend has proven effective at supporting uptake and upgrades

128.2 investment to promote uptake or upgrades is a common feature of workably competitive markets, is commonly approved by regulators where there is some competition, and is clearly consistent with GTIP

128.3 our proposal meets the Commission's commercial rationale test, which is more stringent than needed to support approval – the test ignores non-monetised benefits that further enhance value for FFLAS end users, and competition benefits that flow to FFLAS end users and wider telecommunications consumers.

129. The Commission's commercial rationale test is that "…expected incremental revenues exclusively from the incremental end-users [or upgraded connections] should outweigh the incremental costs". Our proposal meets this test, even though we consider a less stringent test would be appropriate. Other relevant benefits that could support investment but are excluded from the commercial test include:

129.1 non-monetised end user benefits – these include benefits due to the superior performance and attractive pricing of fibre services relative to alternatives. Incentives grow these benefits by helping overcome consumer inertia, while pricing restrictions limit monetisation

129.2 competition benefits – including benefits that flow from challenger RSPs exerting pressure on incumbent MNOs to innovate, improve efficiency, sharpen prices and improve service quality

129.3 non-quantified cost reductions – including efficiency gains from stimulating more efficient and consistent bulk installation volumes, and wider benefits from improving cost per connection or up-selling willing end users to premium plans

129.4 price reductions for existing end users – with pricing constrained by the MAR, our wider consumer base will enjoy any benefits that flow from improving utilisation, spreading fixed costs, or shifting willing end users to higher-priced plans.

130. We note that the Commission should be wary of accepting Spark's objections to our incentive capex proposal. The fact that our incentive investment is opposed by a competing network owner and supported by independent RSPs lends weight to the view that the investment has pro-competitive benefits.[32]

131. For completeness, we note the two preliminary thresholds the Commission identifies as prerequisites for individual capex consideration should not prevent approval as base and connection capex:

131.1 our audited accounts treat incentive investment as capex – if the IMs do not clearly allow the same treatment then they should be amended to clarify that incentive investment is capex. Otherwise, the IMs fail to meet their intent by not providing an *ex ante* expectation of recovering efficient costs[33]

131.2 capex incentives are not part of price, so geographically consistent pricing (GCP) requirements are not relevant. Even if they were, it is possible for incentives to operate consistently with GCP requirements, so compliance is an ongoing post-approval obligation rather than a reason to decline high-level capex allocation.[34]

132. **Appendix A2** provides further information to support evaluation of our proposed incentive capex. Refer also to **Appendix A1** for our responses to the Commission specific proposal relating to incentive payments.

[32] Please refer to submissions from both Trustpower and Sky on Chorus' expenditure proposal, both dated 12 March 2021. Trustpower's submission can be accessed at https://comcom.govt.nz/__data/assets/pdf_file/0022/248071/Trustpower-Submission-on-Chorus-Expenditure-Proposal-for-PQP1-12-March-2021.pdf.
Sky's submission can be accessed at https://comcom.govt.nz/__data/assets/pdf_file/0029/248069/Sky-Submission-on-ChorusE28099-Expenditure-Proposal-for-PQP1-12-March-2021.pdf

[33] Our view is that to the extent there is uncertainty that incentives payments constitute core fibre assets the IMs should be amended to confirm that incentive payments should be treated as core fibre assets and correctly align the IMs to GAAP (including NZ IFRS 15 accounting standard). Refer to Chorus submission on the draft decisions for fibre-PQID IM amendments, 24 June 2021, page 17-18.
https://comcom.govt.nz/__data/assets/pdf_file/0024/258108/Chorus-Submission-on-draft-decisions-for-fibre-PQID-IM-amendments-24-June-2021.pdf

[34] Refer to Chorus submission on Commission's draft guidance on section 201 of the Telecommunications Act 2001 (Geographically Consistent Pricing guidance), 24 June 2021, page 4-5
https://comcom.govt.nz/__data/assets/pdf_file/0023/258107/Chorus-Submission-on-draft-guidance-on-section-201-of-the-Telecommunications-Act-2001-24-June-2021.pdf

Chorus recommendation

133. We recommend that the Commission:

133.1 amend the IMs to ensure NZ IFRS 15 capex is recoverable

133.2 approve Chorus' proposed connection and base capex incentive expenditure.

Adjustments for new demand information are an over-reaction

134. The Commission proposes that:

134.1 the December 2020 update of MBIE's National Construction Pipeline Report (2020 report) should be adopted in place of the 2019 report as an input to our demand forecasts

134.2 we should flow the softer construction outlook through to cuts in expenditure across several opex, base capex and connection capex areas.

135. There are two fundamental problems with the Commission's proposal:

135.1 the 2020 report is not reliable – it was produced at a time of heightened uncertainty and the outlook has since firmed considerably. The MBIE 2019 report remains a better source

135.2 the Commission has over-estimated linkages to expenditure – it has proposed cuts in some areas not sensitive to new construction and significantly over-estimated the strength of the linkage in other areas.

The 2020 report is too pessimistic

136. The MBIE December 2020 report was produced at a time of heightened pessimism about the economic impact of COVID-19 and its flow on impact on property development. Since the 2020 report:

- economic indicators (including building consent numbers) have outperformed MBIE's assumptions
- government has introduced new policy measures aimed at increasing housing supply, and
- bank and government economic forecasts have converged toward a view that residential construction activity will remain robust over coming years.

137. Even with New Zealand's borders closed to most immigration, there is a sizeable housing shortage that will take years to address. As such, development remains supply-constrained in much the same way as reflected in the 2019 report that informed our proposal.

138. To assist the Commission, we asked Sapere to provide an expert report on the construction outlook and have attached this to our submission.[35] This confirms that the 2020 report captures a point of peak pessimism and should be set aside. Sapere

[35] Refer attached report – Sapere, 2021, New Zealand Residential Building Consents, 2021 to 2025.

also prepared an updated outlook that aligns well with the MBIE 2019 report that we used as an input to demand forecasts where relevant to our proposal expenditure.

139. These points reinforce our own experience that we under-forecast demand in 2020. The rebound has been much quicker than we expected, and we now have a robust property development pipeline. This underpins our earlier recommendation that a portion of innovation capex should be reallocated to network extension (new property development) capex to address under-forecasting identified in our post submission analysis.

The Commission has over-estimated linkages to expenditure

140. Notwithstanding the points above, the Commission has over-estimated the impact that a weaker construction outlook would have on our demand forecasts:

    140.1 the 2020 report is only one input to our network extension – new property development demand forecasts – we do not mechanically apply the MBIE forecast but consider it alongside other indicators such as our own pipeline of long lead-time enquiries[36]

    140.2 network extension is a weak input to installation demand – there is a large population of premises passed without an intact installation. The key driver of installation activity is uptake, rather than the relatively small contribution new developments make to the population of premises passed,[37] and

    140.3 network extension has an immaterial link to bandwidth demand[38] – it has no link at all to average throughput per user (ATPU) and a very small influence on the overall scale and location of demand.

141. Given these weak linkages, it is not clear how the Commission has arrived at its proposed cuts:

    141.1 connection capex – the proposed cut is almost three times larger than our entire proposed spend on greenfield connections, which is the only part of connection capex with a material linkage to the property construction pipeline

    141.2 network capacity – the scale of aggregation and transport investment is not impacted by new property development. It is an immaterial input to bandwidth demand, and investment is co-optimised across demand and lifecycle drivers

    141.3 network maintenance – network extension does increase asset populations, but not materially enough to influence forecast network maintenance given fault rates are so low (and are weighted toward older assets).

142. Of the proposed cuts, greenfields-related connection capex is the only area with a material sensitivity to construction pipeline forecasts. However, the size of the proposed cuts vastly outweighs the scale of any potential linkage. In addition, the

[36] Refer Figure 4.4 in Our Fibre Plans, which summarises our network extension demand forecasting. Available at https://comcom.govt.nz/__data/assets/pdf_file/0016/234340/Chorus-Our-Fibre-Plans-12-February-2021.pdf
[37] Refer Figure 4.11 in Our Fibre Plans, which summarises our installation demand forecasting. Available at https://comcom.govt.nz/__data/assets/pdf_file/0016/234340/Chorus-Our-Fibre-Plans-12-February-2021.pdf
[38] Refer Figure 4.15 in Our Fibre Plans, which summarises our bandwidth demand forecasting. Available at https://comcom.govt.nz/__data/assets/pdf_file/0016/234340/Chorus-Our-Fibre-Plans-12-February-2021.pdf

connection capex mechanism is specifically designed to ensure the full benefit of any drop-off in installation capex due to reduced volumes would flow through consumers.

Chorus recommendation

143. We recommend that the Commission should:

143.1 set aside MBIE's 2020 National Construction Pipeline Report as a basis to adjust demand forecasts

143.2 set aside proposed cuts to baseline connection capex, maintenance opex and network capacity

143.3 allow the connection capex mechanism to work as intended to address any drop-off (or pick-up) in installation activity.

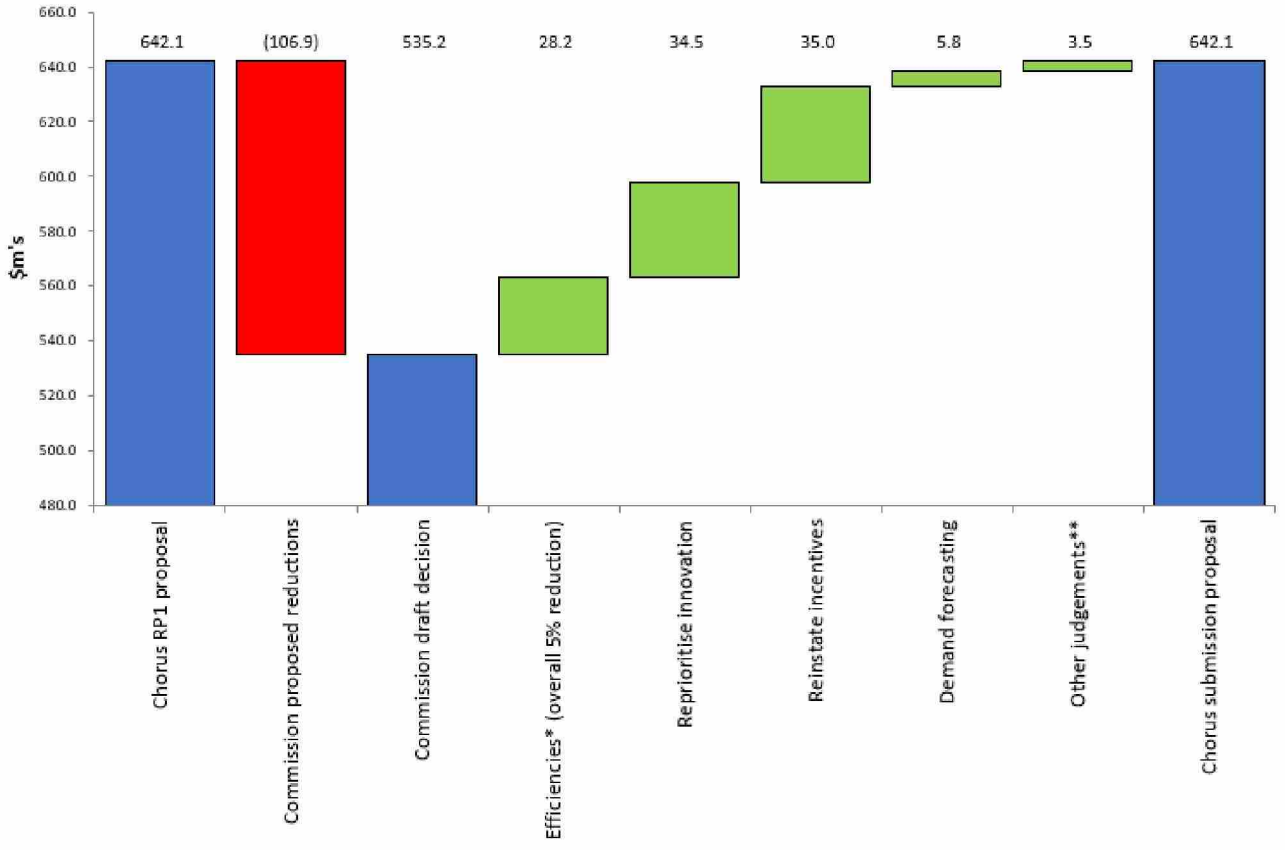
Summary of our updated proposal

144. The following charts provide breakdowns by regulatory category and overall expenditure types of:

- our original proposal
- the Commission's draft decision, and
- our updated proposal.

145. We have also provided an attachment presenting the above information, plus multiple views of lease expenditure, in an RT01-style format.

Figure 1: Base capex submission



146. **Efficiencies** relates to our response to the Commission's draft decision proposals to cut expenditure due to a view that we are 'over-forecasting' or 'inefficient'. In the case of base capex, this refers to a proposed 5% ($28.2m) overall reduction to base capex.

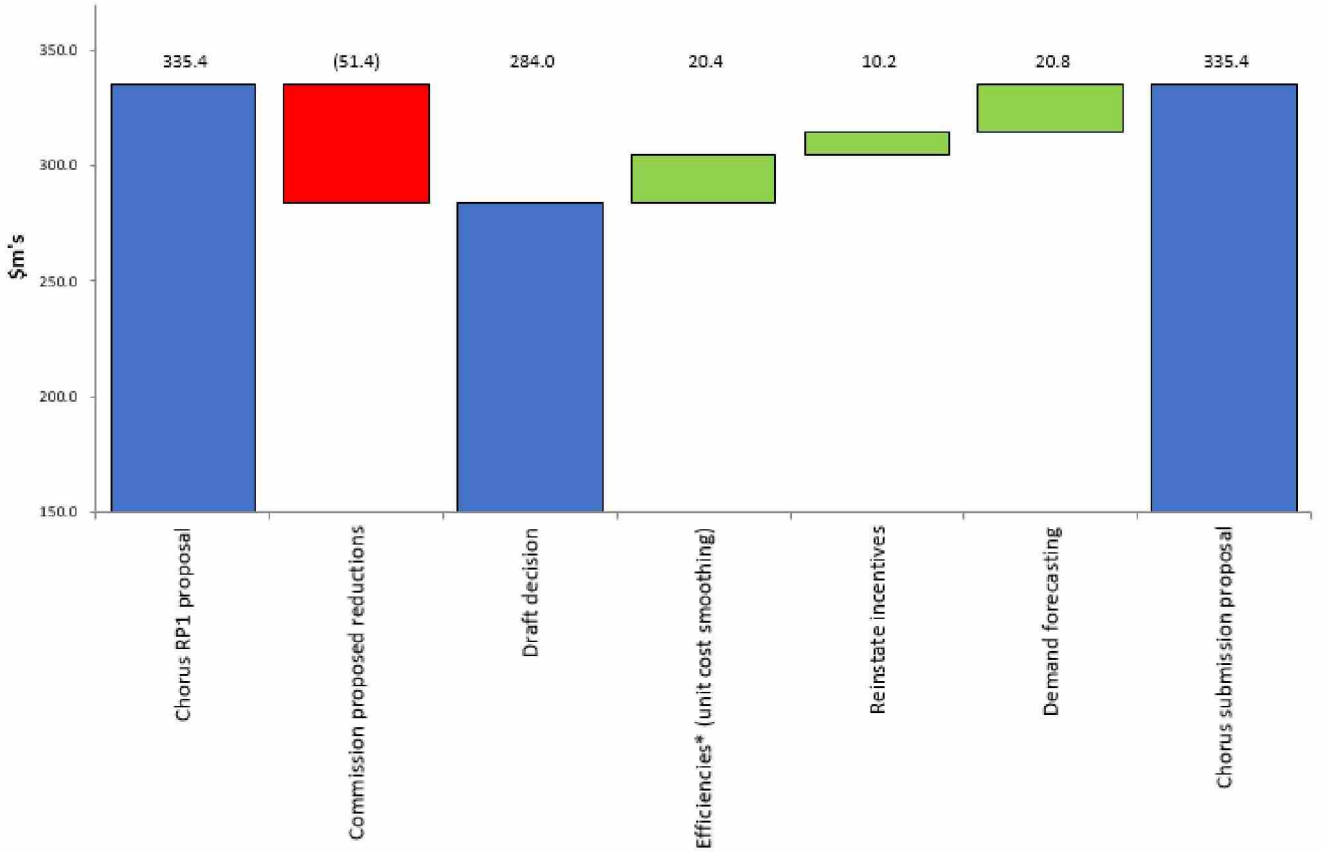
147. **Other judgements** collates our responses on remaining smaller adjustments that do not fall into the main thematic categories. For base capex this includes:

147.1 correcting the Commission's over-reduction of innovation by $1.6m by taking total unallocated spend rather than FFLAS forecasts;

147.2 premature cost allocation judgements for network and customer IT expenditure ($1m); and

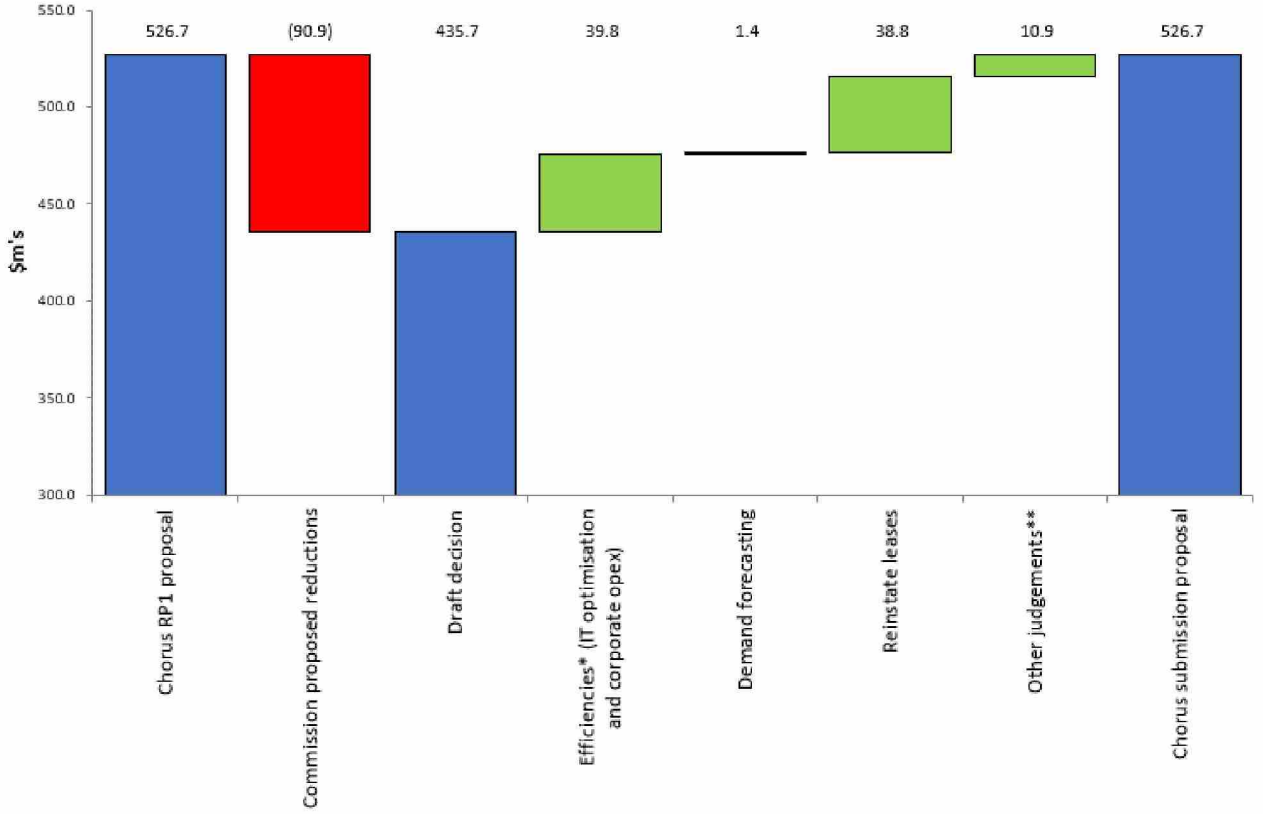
147.3 investment threshold adjustments in network capacity expenditure ($0.89m).

Figure 2: Connection capex submission



148. **Efficiencies** relates to our response to the Commission's draft decision proposals to cut expenditure due to a view that we are 'over-forecasting' or 'inefficient'. In the case of connection capex, this refers to a proposed $20.4m reduction for 'unit cost smoothing'.

Figure 3: Opex submission



149. **Efficiencies** relates to our response to the draft PQ decision proposals to cut expenditure due to a view that we are 'over-forecasting' or 'inefficient'. In the case of opex, this refers to:

    149.1 the proposed $21.3m overall reduction to opex to account for benefits from planned IT investment; and

    149.2 12.8% of corporate support reductions for 'historic cost trends' and 'inefficiencies in the base year' (which calculates to $18.5m on the Commission's pre-adjusted proposed expenditure).

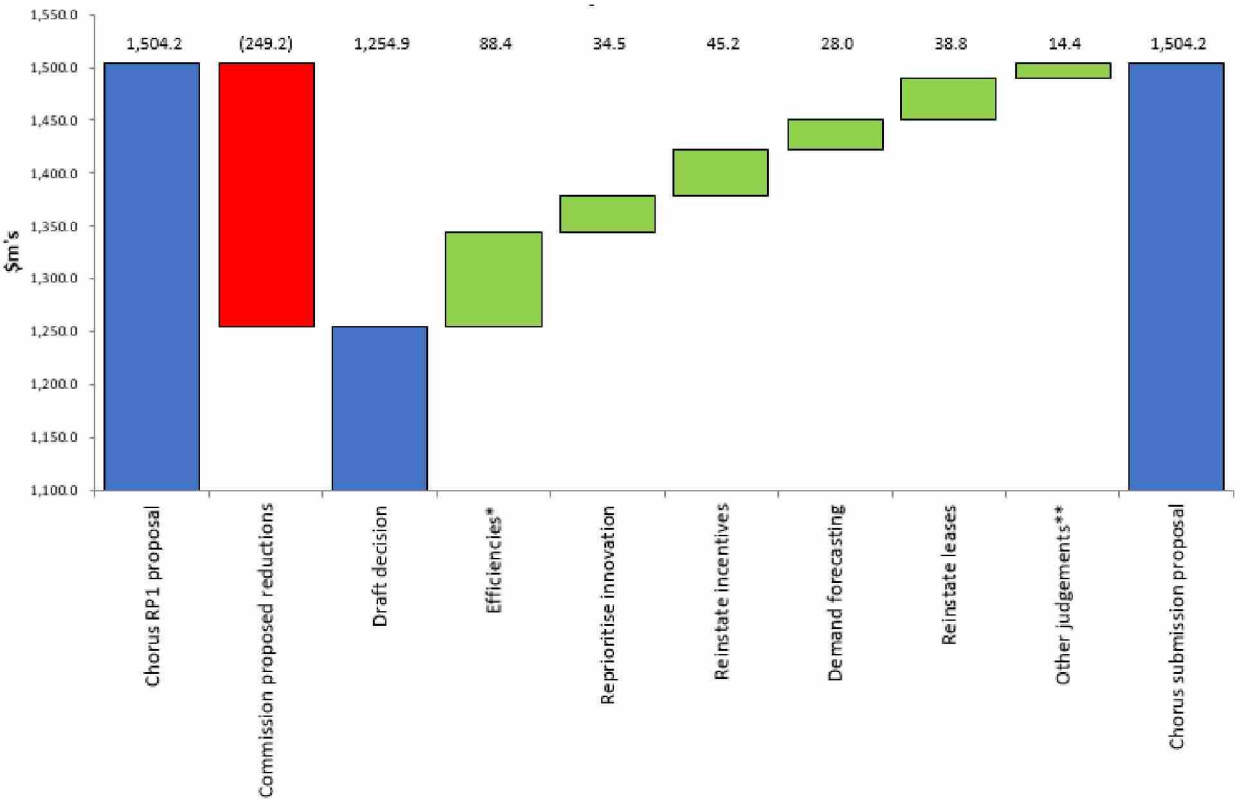
150. **Other judgements** collates our responses on remaining smaller adjustments that do not fall into the main thematic categories. For opex this includes:

    150.1 correcting over-reductions of self-insurance (draft PQ decision doesn't specify exact value of adjustment) and pits and manholes ($5.6m) due to using unallocated values rather than FFLAS values;

    150.2 premature cost allocation judgements for these items; and

    150.3 adjustments for justifiable variances to the business plan (pits and manholes ($2m of FFLAS expenditure), self-insurance and an unspecified second adjustment to corporate opex).

Figure 4: Total expenditure submission



151. **Efficiencies** relates to our response to the Commission's draft decision proposals to cut expenditure due to a view that we are 'over-forecasting' or 'inefficient'. See breakdowns under base capex, connection capex and opex above.

152. **Other judgements** collates our responses on remaining smaller adjustments that do not fall into the main thematic categories. See breakdowns under base capex, connection capex and opex above.

Quality

Summary

153. We support the Commission's decision to set quality standards only for the compulsory dimensions of availability and performance. This recognises that market context and other regulatory requirements create strong incentives to provide services at a level of quality end-users demand.

154. Quality standards should reflect the level of expenditure allowed in the decision – where the Commission proposes substantial cuts to expenditure, a lower quality standard is to be expected.

155. We support the Commission's decision to accept our quality objective for PQP1: to hold quality stable as we transition into our new regulatory arrangements. But the proposed standards for availability are not achievable and would require a significant increase in network reliability compared to that required by the UFB agreements. It seems clear the Commission did not intend this outcome.

156. The fact the Commission has inadvertently set quality standards that would require a step-change increase in network reliability illustrates the dangers of setting standards for a rapidly expanding and changing network about which historic data is of limited use. It was this risk that informed our proposal that quality standards should be reporting against targets for PQP1 while reliable baseline data is established.

Recommendation

157. We continue to believe quality standards requiring reporting against targets would be the best approach for Chorus in PQP1. There are several reasons for this including the absence of a long series of reliable historic data from which to calibrate targets; the potentially severe consequences of a quality standard breach; and the limited risk to quality over the short PQP1.

158. Whether or not targets are reported against or set as outcome-based standards, we think the following changes to the Commission's proposed targets should be made to make them consistent with the purpose of quality standards and with the aim of maintaining existing quality:

158.1 **Availability**: The proposed unplanned downtime standards should be aggregated/ pooled over geography and time to avoid penalising expected events:

- Geographic aggregation can be achieved by providing that Chorus may not exceed the unplanned downtime target in a number of POI areas in a single month; or by grouping POI areas into geographic zones of similar size to avoid incentives to favour smaller areas; and
- Aggregation over time can be achieved by providing that Chorus may not exceed the unplanned downtime target in a number of months in each regulatory year; or by returning to the twelve-month rolling average approach employed for UFB.

158.2 **Performance**: The proposed port utilisation standard should be adapted to be consistent with our customer contracts (and likely anchor service regulations) by increasing the maximum utilisation threshold to 95% and excluding congestion resulting from network failures. If there is a separate port utilisation standard the requirement to count congestion as downtime should be removed to prevent double-jeopardy.

Purpose of quality standards

159. We agree the Commission has correctly articulated the purpose of quality standards. In particular:

159.1 The principal way quality standards give effect to the purpose of Part 6 is by helping ensure regulated providers have incentives to supply FFLAS of a quality that reflects end-user demands.[39]

159.2 End-users make price-quality trade-offs when making decisions about which services are right for them. The fact we offer a portfolio of fibre services enabling this trade-off to be made at an individual level means quality standards should reflect a minimum level of quality end-users would be willing to pay for.[40]

159.3 Quality standards act as a minimum level of quality and encourage investment in, and maintenance of, the network to not let quality degrade below a given level. They correct for a broad incentive to reduce quality below a certain level.[41] We believe this is the principal role of quality standards under the Part 6 framework.

160. We disagree that quality standards have a role to play in promoting competition by ensuring maintenance of quality for input services.[42] Part 6 includes specific tools for this purpose should such intervention be necessary – DFAS and unbundled fibre regulations. Equivalence of inputs under Part 4AA and the market context also operate to ensure we have incentives to provide high-quality input services. Using quality standards under price-quality regulation for this purpose would be using the wrong tool for the job.

161. In our expenditure proposal we set our quality objective to hold quality stable as we transition into our new regulatory arrangements.[43] The Commission appears to have accepted this objective.[44] We agree that the Commission is required to take account of proposed declared services regulations which are required to reflect existing quality under the Act.[45]

162. We agree with the Commission's decision to only set quality standards for the compulsory dimensions of availability and performance. The Commission has correctly recognised that the market context, and the other regulations on Chorus

[39] Commission, *Chorus' price-quality path from 1 January 2022 –Draft decision*, 27 May 2021, Para 5.21
[40] Ibid, Para 5.22
[41] Ibid, Para 5.30
[42] Ibid, Para 5.25
[43] Chorus, *Our Fibre Plans*, 12 February 2021, chapter 5.2
[44] Commission, *Chorus' price-quality path from 1 January 2022 –Draft decision*, 27 May 2021, See, for example, para 5.112
[45] Ibid, Para 5.40

(discussed below), mean that setting standards for ordering, provisioning, faults, switching and customer service is unnecessary and would be disproportionate.

Quality and expenditure

163. We agree it is fundamental to price-quality regulation that quality and expenditure are linked. The Commission commented in the context of availability standards:[46]

> *Finally, we note that there is a link between quality outcomes and expenditure that we allow Chorus to recover over the PQ period. Chorus has not proposed significant expenditure with the intent to improve quality standards from current or historical levels. Therefore, any tightening of the standards from the UFB contracts may require additional expenditure and could result in higher costs for end-users.*

164. We agree and note the reverse is also true – reduction in expenditure relative to that in our proposal aimed at holding quality stable may jeopardise quality outcomes. We built the network to a specific standard and planned our expenditure to support that. Both build and expenditure directly affect quality outcomes over time and must be explicitly considered when setting standards. We do not believe the proposed availability standards reflect the configuration of the built network or that proposed expenditure cuts are compatible with the proposed standards over time. As a matter of principle the standards should be met where good telecommunications industry practice is adhered to. We do not believe this is the case with the Commission's proposed quality standards.

165. We have commented elsewhere in this submission on the treatment of our proposed expenditure. In relation to quality standards, we assume the Commission is seeking to set standards consistent with our aim of holding quality stable for PQP1, and that it will allow the expenditure we have proposed to achieve that outcome. If expenditure cuts are maintained, quality standards will need to be rethought.

Market context

166. In thinking about what is required to achieve the purpose of quality standards it is important to consider the market context in which Chorus operates. The new regulatory framework is incentives-based regulation. Quality requirements should go no further than is required to mitigate any incentive the regulated supplier might have to deliver lower levels of quality than consumers demand. So the first question is whether there are incentives which need to be corrected for by quality standards.

167. The Commission says it has considered the incentives Chorus has in relation to providing quality of service, and the dynamic nature of the telecommunications industry.[47] It has also recognised competition from FWA providers as providing strong incentives for quality.[48] We agree and think the impact of market forces is worth emphasising because they are the key driver of our performance and their impact on our incentives should not be understated.

168. It seems an obvious point, but Chorus' business depends on selling fibre services. Business line restrictions mean we cannot sell services directly to end-users so our business depends on selling services to RSPs. Increasingly, RSPs have choices.

[46] Ibid, Para 5.112
[47] Ibid, Para 5.33
[48] Ibid, Para 5.67

Fibre faces competition from unregulated, vertically integrated MNOs who have a closer relationship with end-users and are using their market position to promote their own products.

169. Our business depends on offering fibre services of a quality that supports the best broadband in New Zealand. For those RSPs that are also MNOs, the quality of Chorus' fibre services needs to be attractive enough that end-users require them to use our fibre in preference to their own cheaper network inputs. There is therefore already a strong incentive on Chorus to provide fibre services of a quality the reflects end-user demands which obviates the need for extensive quality standards.

Regulatory context

170. We are pleased to see the Commission has recognised the important role of other regulatory requirements in placing incentives on Chorus to provide high quality fibre services. It has been a key message of our engagement on quality dimensions in the IMs, and quality measures and standards under PQ/ID, that quality standards need to be viewed as one piece of a multi-faceted quality regulation framework.

171. We agree with the Commission that it is required to take account of service levels prescribed in declared services regulations when setting quality standards.[49] We would take this further and say the Commission is required to consider the overall effect of declared services regulations on incentives for quality – not just any prescribed service levels. We also agree that any quality standards must be consistent with the quality requirements for the declared services.[50]

172. The other regulations on Chorus such as non-discrimination and equivalence of inputs limit both the incentive and opportunity for Chorus to allow the quality of fibre services to degrade. This reduces the need for extensive quality standards and narrows their role in addressing any remaining adverse incentives.

173. We also welcome the Commission's commitment to ensure decisions are consistent and complementary with retail service quality regulation under Part 7.[51] We have previously said it will be incumbent upon us to provide services of a quality that allows our RSP customers to meet their obligations under retail service quality regulations, provided we have the expenditure allowance to support this.

Proposed availability standards

174. The availability standards proposed by the Commission are inconsistent with the aim of holding quality stable as we transition into our new regulatory arrangements. We estimate we would have failed the Commission's proposed layer 1 downtime standard twice[52] and the layer 2 downtime standard once in the year to March 2021.[53] It is almost certain we would breach the proposed availability standards

[49] Ibid, Para 5.40
[50] Ibid, Para 5.42
[51] Ibid, Para 5.51
[52] This increases to six times if outages cause by faults in non-diverse transport services are included.
[53] Data is drawn from Chorus' billed connection database used for CIP reporting extended to include non-UFB fibre. Connections in other LFC areas are included so numbers may include ID-only FFLAS which would not be subject to PQ regulations. ID only connections have yet to be defined such that they can be excluded from data. Classification of downtime as either layer 1 or layer 2 is based on manual service company reporting so carries some risk of error.

every year. They are not achievable with the current network and planned expenditure.

175. The proposed standards do not achieve the purposes of quality standards described above. We do not think the Commission has intended this outcome as we agree the Commission has correctly articulated the purpose, role and aims of quality standards for PQP1 (as discussed above).

176. The Commission's unintentional proposal of overly ambitious availability standards illustrates well the dangers of relying on limited historic data in relation to a new and expanding network. We described this in our submissions and in our presentation to the industry workshop on quality standards for PQP1.[54] There simply isn't the long series of stable historic data available which is necessary to calculate with any meaningful precision the probability of breaching a standard moving forward.[55]

Proposed standards penalise expected events

177. The granular and frequent application of the proposed availability standards will result in punishing events which are expected and consistent with operation of the network in accordance with good industry practice. In the absence of a long series of reliable historic data, the Commission must consider how the network is built and the impact of expected events in order to set sensible quality standards for availability.

178. The Chorus fibre network was built to a contractual standard and design specified by the Crown. It is not reasonable to set quality standards which effectively require the network to provide a level of reliability it was not specified or built to meet. We do not think this is what the Commission intends, but we have set out below why the proposed availability standards will penalise operation of our network in a way that is consistent with good telecommunications industry practice.

179. Our network is built to limit the number of end-users who are vulnerable to a single element failure. The UFB contract required:[56]

> *The maximum number of End Users to be affected by a single element failure (Layer 1 or Layer 2) is 5,000, excluding the Central Office/Point of Interconnect buildings and associated MOFDF. Where the Candidate Area has fewer than 5,000 End Users, then failure of a single Network element will not affect any more than 3,000 of the End Users within that Candidate Area.*
>
> *An element includes a fibre sheath, but not a duct line and is considered a discrete component of a network node. This allows use of an aggregation switch provided with dual interfaces cards, dual power supplies, dual switch fabric and dual processors designed to meet the availability requirements, rather than using dual switches at every aggregation node.*

180. Network elements fail and this is expected. The Commission's proposal sets a limit of 15 minutes of unplanned downtime per POI area per month for layer 1 aspects of

[54] Chorus, *Quality standards proposal summary- presentation to Commission's quality of service stakeholder workshop*, 26 February 2021

[55] We have not been able to replicate the Commission's Table 5.2. In any event, application of the proposed standards to recent historical data, and consideration in the context of network design, shows the probabilities stated should not be relied upon

[56] Network Infrastructure Project Agreement between Chorus and CIP, 24 May 2011, Annexure 2 to Schedule 3, clause 25

the network. On average we experience around two core fibre cuts per month. These are mainly caused by civil works (water, sewerage), roading development, landowners digging their own land, and animal incidents (chewing through cables). These significant fibre cuts can impact up to 3000 connections and take around 12 hours to repair depending on a number of factors, including the extent of the damage. It is possible as Chorus expands the network into more rural areas that time to repair could increase. It is unlikely to be efficient to engineer the network such that these incidents couldn't occur or wouldn't result in outages, and any such proposals would need to be supported by significant expenditure.

181. Electronics also fail causing unplanned downtime for layer 2 aspects of the network. A single passive optical line terminal (**POLT**) can support 3,000 end-users and in some cases an entire POI area (e.g. Whanganui). A significant failure such as failure of a POLT power supply could result in the entire POI area experiencing downtime. The proposed quality standard would require this to be fixed within three minutes in order to maintain compliance. This is not feasible.

182. Appropriate quality standards would not be breached by these kinds of rare but expected and locally severe events.

Disaggregated standards are inconsistent with purpose

183. The Commission's proposed quality standards for availability would punish expected events due to the disaggregation proposed. The proposed standards apply per POI area per month. The Commission acknowledges this provides many more opportunities to exceed the quality standards.[57]

184. Inequality between POI areas is the main issue with setting standards in this way. The POI area with the smallest number of Chorus fibre connections is Whanganui POI area which has 295 Chorus fibre connections. This can be compared with Auckland POI area which has 431,186 connections.[58] The proposed quality standards treat these areas as equivalent.

185. This creates odd incentives for network reliability investment given downtime on a single access line in Whanganui has over a thousand times more impact in terms of compliance than downtime on a line in Auckland. This is more perverse because the reason Chorus has so few connections in Whanganui (and several other POI areas with low connection numbers) is that we are not the main UFB provider.[59] Therefore the proposed standards create incentives for Chorus to focus network reliability efforts in areas where we are not the most important provider for end-users.

186. Auckland is an outlier and most POI areas have a relatively small number of connections. The median number of Chorus fibre connections in a POI area is 10,082.[60] This, in concert with the design of the network as noted above, means the proposed standard would expose Chorus to quality standard failures for events which are expected and consistent with good industry practice.

[57] Commission, *Chorus' price-quality path from 1 January 2022 –Draft decision*, 27 May 2021, Para 5.101
[58] Connections as at end March 2021. Includes UFB and non-UFB fibre connections and does not exclude ID Only FFLAS.
[59] Even in POI areas where we are not the main UFB provider, some Chorus FFLAS will be subject to PQ regulation (i.e. won't qualify as ID-only) as we have small pockets of UFB2 network and network in property developments which does not overlap with LFC network.
[60] As at end March 2021. Calculated as the mean of the 13th and 14th largest POI areas.

187. The UFB contracts mitigate this by using a twelve-month rolling average (i.e. aggregating over time rather than geography) for downtime service levels.[61] We understand the Commission's view that a twelve-month rolling average doesn't suit the new framework.[62] However, the twelve-month rolling average service level was the basis of our agreement with the Crown, the basis on which the network was constructed, and is the basis of our operational planning for maintenance and fault response. It was also this approach to downtime service levels that informed our expenditure proposal.

188. If the Commission is minded to depart from the twelve-month rolling average approach, great care must be taken in order to avoid unintended consequences. Simply dividing a rolling annual target by twelve and adding a 'buffer' is not a reasonable approach to setting a monthly target.

189. The Commission provides reasons in support of disaggregation:[63]

    189.1 **The Commission intends to capture 'extreme events' which cause consumer harm:** We agree it is important these events are made transparent and explained. But, as noted above, the purpose of quality standards is to encourage investment in, and maintenance of, the network to not let quality degrade below a given level; and rare but locally severe events are to be expected. Such extreme events are likely to be known anyway even in the absence of any regulatory requirement. If more is required, information disclosure and reporting are better tools for monitoring extreme events than trying to account for these in an outcome based quality standard.

    189.2 **The Commission is concerned in absence of granular standards it will lack the sample size to perform robust statistical analysis:** We agree this is a good reason for requiring granular reporting, but it does not provide a reason to have granular quality standards. The Commission is proposing highly granular reporting on availability and faults under its proposed ID determination.[64] This will provide it with ample data on which to perform statistical analysis and observe regional or temporal variations in network reliability. The Commission has accepted this point in relation to the proposed port utilisation standard (discussed below).

Exclusions are appropriate but insufficient

190. The Commission has proposed exclusions of planned downtime, downtime caused by force majeure events, and downtime caused by faults on non-diverse transport links, from the calculation of unplanned downtime for the purpose of availability standards. These are appropriate but are insufficient to avoid the proposed standards capturing expected events.

191. In particular, while downtime caused by faults on non-diverse transport links is counted under UFB service levels, we agree with the Commission that if we are to be held accountable for failures on these links, we must have the expenditure allowance to augment them to avoid failures. Our proposal did not include expenditure for this purpose and, in the absence of such expenditure, it would be unreasonable to

[61] There is also a transition to application of service levels where service levels do not apply until 20% of premises passed are connected or there are 3000 connections, whichever occurs first
[62] Commission, *Chorus' price-quality path from 1 January 2022 –Draft decision*, 27 May 2021, Para 5.102
[63] Ibid, Para 5.100
[64] Commission, *Draft Fibre Information Disclosure Determination 2021*, 27 May 2021, Schedule 19

include this downtime in a compliance standard. This exclusion can be revisited in future if we propose expenditure to increase resilience in this way.

192. We also note the Commission has proposed a maximum of one breach per regulatory year. We agree this is appropriate if targets apply monthly, but it provides little comfort where the standards are set at a level such that a breach every year is almost certain. Unachievable standards do not provide an incentive for compliance, and do not achieve the purpose of Part 6 because they do not plausibly reflect quality that end-users demand.

Alternative approach to availability standards

193. We continue to believe that in Chorus' context the best approach for PQP1 is a standard that requires reporting against targets set by the Commission. This was the position articulated in our expenditure proposal and presented to the Commission and industry at the quality workshop in February this year.

194. On this approach the Commission would set downtime targets and we would report against these and provide detailed reports on the circumstances of any failures. This is appropriate because:

194.1 In the absence of a long series of reliable historic data the Commission lacks the information necessary to calculate a reasonable level at which compliance action is warranted. It is appropriate to set targets without the spectre of compliance action while that data accumulates.

194.2 The consequences of a quality standard breach are potentially severe. We do not accept it is reasonable to set standards based on limited data, or replicate contractual service levels, and rely on the enforcement discretion of the Commission. Standards are a trigger for compliance action and care must be taken not to penalise behaviour consistent with the quality aim (i.e. avoid false positives).

194.3 Breach reporting against targets would allow the Commission to identify whether the targets set are capturing the kind of events and conduct they would want quality standards to penalise (i.e. those indicative of a deterioration in quality). This would improve outcomes based targets set in future regulatory periods. These discussions can take place in a much more open and collaborative way if potential liability and penalties are not in contemplation.

194.4 PQP1 is short. The market context and other elements of regulation (discussed above) already create strong incentives for quality. Network reliability is generally slow to change as described in our expenditure proposal. These factors mean there is negligible risk of a deterioration in network reliability during PQP1 and, if it were to occur, ID means there is no prospect of it going undetected.

194.5 There is precedent for reporting against targets as quality standards under Part 4. This was the approach used for Transpower's first regulatory control period. The circumstances described above provide an even stronger justification for reporting against targets than applied in that case.

195. Whether or not targets are reported against or set as outcome-based standards, it is important they are aggregated to avoid the problems with the proposed targets we have described, and to arrive at standards consistent with the purpose of quality standards and aim of holding existing quality stable.

196. Establishing overly granular and frequent quality standards was a mistake made in setting Transpower's price-quality path for RCP2. This resulted in a high probability of breach regardless of what Transpower did to manage the network. The Commission responded in setting the price-quality path for RCP3 by aggregating measures and introducing normalisation.[65] In setting the standard for grid performance, the Commission used pooling over both geography (points of service) and time. The Commission summarised the purpose of this:[66]

    196.1 Pooling measures will help effectively increase the sample size and reduce the risk of breach due to setting standards based on points of service with small numbers of data points.

    196.2 Pooling across time will help filter out single-year performance issues while highlighting potential deterioration in performance over multiple years.

197. The rationale for adopting this pooling approach for Transpower applies equally here. A similar approach should be adopted for Chorus' availability targets. The proposed targets should be aggregated/pooled across both geography and time. Below we set out recommendations for how this aggregation could be achieved.

Aggregation over geographic areas

198. Because of the vast inequality of connection numbers across POI areas described above, we think geographic aggregation is the most important factor for achieving reasonable targets. So reasonable targets, provided the Commission's current exclusions are maintained,[67] might require Chorus to exceed the downtime limit in three out of 26 POI areas in a single month to constitute a failure to achieve the target.

199. Aggregating POI areas in this way results in targets more consistent with the aim of ensuring existing quality is maintained, but doesn't resolve the incentive to focus efforts around reducing downtime on smaller POI areas. For example, the smallest three POI areas as at March 2021[68] together comprise 5,938 total fibre connections which is less than 1% of Chorus fibre connections. Ideally, regulatory and commercial incentives to treat connections equally should align.

200. To correct for this, the targets could group POI areas to ensure targets are set against a reasonable sample size in all cases and ensure there are no incentives to favour certain areas. For example, targets could apply across three geographic areas: Auckland (430,186 connections); Rest of North Island (265,452 connections); and South Island (145,226 connections).[69]

[65] See Commissions comments in *Transpower's IPP from 1 Apr 2020 –Decision and Reasons paper*, 29 August 2019, Appendix F, paras F38-F40
[66] Commission, *Transpower's individual price-quality path from 1 April 2020*, 29 August 2019, Table 3.1
[67] The reasonableness of a target such as this is highly dependent on maintaining the exclusion of downtime resulting from failure of non-diverse transport services. If this exclusion was removed the number of POI areas exceeding the target in a single month would need to increase to five or six.
[68] Whanganui, New Plymouth and Oamaru POI areas
[69] March 2021, includes UFB and non-UFB fibre but does not exclude ID-only FFLAS.

Aggregation over time

201. In addition to geographic aggregation, it would be reasonable to include some level of pooling across time - particularly if targets apply every month. For example, together with geographic pooling as described above, the standard could provide that Chorus may not exceed the downtime limit in three or more POI areas in the same month in any two months of the regulatory year. This would help filter out 'bad months' and ensure standards were only identifying potential deterioration in network quality.

202. Another option for pooling across time is to return to a twelve-month rolling average target as is used under the UFB contract service levels. As noted above, the Commission has set out its objections to a rolling average, but it is this approach that has informed our business planning and expenditure proposal.

Proposed performance standard

203. We agree with the Commission's decision to use port utilisation as the principal indicator of performance. We also agree that aggregation ports are the correct ports to be focusing on. The focus on aggregation port utilisation in UFB measures provides a key indicator for network capacity planning. This has delivered a fibre network that supports the most consistent broadband experience in New Zealand - services which do not suffer from the peak-time slowdowns characteristic of FWA.

204. We agree with the decision to not geographically disaggregate this quality standard. This is appropriate when the aim is to support good overall capacity planning. A geographically disaggregated standard would not be workable or consistent with the purpose of quality standards. We also note the Commission says, although there will not be standards in each POI area, the Commission will be able to identify any local congestion issues in ID disclosures. This is correct and is equally true for availability standards.

205. For the reasons noted above in relation to availability, we continue to believe reporting against targets is the most appropriate approach for PQP1. Notwithstanding that, we have set out our comments on the Commission's proposed port utilisation standard below.

206. The Commission has proposed two key decisions about the level of the port utilisation standard:

    206.1 The level of utilisation which ports should not exceed in a 5-minute interval is set at 90%; and

    206.2 The proportion of ports which must not exceed the maximum utilisation threshold in a 5-minute interval in a month is set at 0.1%.

Maximum utilisation threshold

207. We think a 95% maximum utilisation threshold would be more appropriate for a quality standard than 90%. In our expenditure proposal we proposed to report on the proportion of ports with utilisation over 90% and we said:[70]

[70] Chorus, *Our Fibre Plans*, 12 February 2021, 5.3.1 p52

the 90% threshold provides a timely indication of network stress. It is lower than the 95% maximum utilisation threshold we have as a contractual service level, so provides a timelier indicator with a low (but non-zero) result under normal conditions. At 90% there is minimal performance degradation but limited headroom

208. It is important to note:

208.1 95% rather than 90% is the current utilisation threshold under the UFB contracts so the Commission's proposal increases the network capacity requirement.

208.2 95% utilisation is the level which will trigger a fault under our fibre services agreement (and potentially the anchor service regulations). It would be inconsistent for a quality standard to set a lower threshold.

208.3 Our expenditure proposal included allowances for capacity augmentation based on a 95% maximum utilisation threshold. If the threshold is lowered to a level inconsistent with our proposal this may need to be revised.

208.4 At 90% utilisation there is unlikely to be any performance degradation experienced by end-users.[71] This is particularly the case as the capacity of aggregation links increases. For example, the probability that end-users will experience performance deterioration where a 100Gbps aggregation link is at 90% utilisation is lower than where a 1Gbps link is at 90% utilisation.

209. Therefore while 90% is a good indicator of network stress, and one we use as an internal engineering standard to indicate the need for augmentation, it is not a good threshold for a quality standard aimed at capturing deteriorating performance in a way that affects end-users. We recommend changing the maximum utilisation threshold for the quality standard to 95%.

Proportion of ports above maximum threshold

210. The level of the standard at 0.1% is reasonable provided that:

210.1 The maximum threshold is increased to 95% for the reasons described above; and

210.2 Ports where utilisation above the threshold is caused by network failures are excluded from calculation.

211. Utilisation above the maximum threshold caused by network failures does not count as a breach under our performance measurement regime for UFB. The UFB layer 2 performance measurement and reporting regime describes 'network failure':[72]

> A Network failure would include for example, the failure of a LAG group or Layer 2 Services Network element (including failure due to Network or software upgrades), but would not include for example, a lack of provisioned capacity (including the failure of a single link in a LAG group).

212. Maintaining this exception to the performance standard is important because:

[71] Even at 95% utilisation there is likely to be negligible impact on end-user experience
[72] CIP, *Layer 2 Performance Measurement and Reporting Regime*, November 2017, clause 7.7

212.1 The purpose of the performance standard is to ensure appropriate investment in the capacity of the network. Including congestion as a result of network failure means the standard measures reliability for which the Commission is proposing separate availability standards. The exception avoids an element of double-jeopardy.

212.2 Including congestion as a result of network failures may disincentivise efficient diversity. When a primary link fails traffic may be loaded onto a diverse secondary link in a way that causes the secondary link to congest. In this scenario the diversity has prevented end-users totally losing service, but the congestion may risk failure of a performance standard.

212.3 Though the exact number changes regularly, there are currently around 2,300 uplink ports and 1,500 internodal ports in the Chorus network. This means only 4 ports can exceed the maximum utilisation threshold in a month before the standard is breached. This leaves no headroom for 'false positives' where congestion is caused by events rather than insufficient capacity.

Utilisation above threshold as downtime

213. Counting port utilisation above 95% as downtime would be consistent with UFB and it makes sense where there is no separate port utilisation standard. However, where a separate port utilisation standard is set as proposed by the Commission, it exposes Chorus to double-jeopardy because provision of inadequate capacity could lead to failure of both availability and performance standards.

214. We accept that utilisation above 95% will continue to count as a fault under our customer contracts. Counting port utilisation above 95% as a fault makes sense from a fault restoration service level standpoint – the service is not performing and needs to be restored in accordance with service levels.

215. But if the Commission is proposing a separate port utilisation standard under a price-quality determination we think it should remove the requirement to count utilisation above 95% as downtime under the layer 2 availability standard to avoid double-jeopardy. Good regulation does not provide for the same conduct to be punished twice.

PQP1 revenue allowance and alternative depreciation

PQP1 revenue allowance

216. Current fibre prices are delivering positive outcomes and business drivers that are working well for end-users. Consumer data usage continues to grow exponentially, while prices remain flat in real terms. Chorus actively encourages end-users to migrate to fibre and innovates to develop new products, while meeting ever-growing demands to connect to fibre, for faster speeds and higher data use. We want to maintain this momentum over PQP1 and continue delivering great outcomes for consumers.

217. The draft decision sets Chorus' allowable revenues for PQP1 at a level where they align closely with Chorus' business plan expectations and would not imply a material price shock in either direction. This provides a smooth transition into the new regime, which is welcome and will help us to maintain momentum, although this is very much a minimum viable outcome and the revenue allowance should not be set any lower.[73]

Alternative depreciation

218. A key input to achieving a revenue outcome that implies a smooth transition is the draft decision to apply a DV depreciation method to the FLA. The draft decision uses an FLA life at implementation date of 14 years and a DV depreciation rate of 14.3%. The effect of the alternative depreciation is to bring forward $205m of revenue into PQP1.

219. Without alternative depreciation, we would not expect to recover our invested capital and earn a normal return over the life of the assets (i.e. we would expect NPV<0).[74] A revenue cap that maintains our expected revenues in PQP1 will drive longer-term positive impacts for New Zealand by providing positive incentives for Chorus to promote access to current and future fibre technologies to those end-users who have yet to switch to fibre. This helps us to deliver on the government's vision for the UFB programme.

220. We agree with the draft decision[75] that bringing forward recovery of the FLA would promote the long-term benefit of fibre end-users for the following reasons (most of which would apply equally if alternative depreciation of a similar quantum was applied across the core fibre assets):

    220.1 Front-loading depreciation reduces stranding risk and the FLA exacerbates asset stranding risk relative to the core fibre assets, because it is a sunk cost with no alternative use and is a cost that new entrants would not need to bear.

[73] The alternative depreciation is not a complete solution. Investment incentives are also driven by setting the asset valuation and WACC at appropriate levels and ensuring that expenditure allowances reflect the cost of efficiently operating the business.
[74] We note that alternative depreciation mitigates the risk of asset stranding but not broader risks of under-valuation of assets or under-compensation in the WACC (both of which also affect investment incentives).
[75] Draft Decision, paragraph B58.

220.2 In workably competitive markets, a FLA would be recovered as quickly as possible to manage stranding risk without causing a price shock.

220.3 The high uptake to date for UFB services gives us confidence that faster recovery of the FLA can be achieved without the risk of price shock for FFLAS end-users.

220.4 Using a front-loaded depreciation profile reduces the risk of a material step-change in the depreciation building block revenue, and hence in revenue/prices, at the end of the FLA's life.

220.5 Importantly, Chorus needs to retain the ability and the incentive to keep investing in new FFLAS connections, and new products and services. A revenue allowance that is too low and drives price reductions (considering that we lose copper revenue when migrating end-users from copper) would put pressure on us to reconsider our investment plans and network growth strategy.

221. Alternative depreciation to reduce this stranding risk is therefore essential to provide the necessary investment incentives for Chorus and our investors, to deliver long-term benefits for fibre consumers.

Chorus' proposed tilted annuity method

222. We appreciate that at the time of publishing the draft decision the Commission had only had a limited time to consider our tilted annuity proposal. We trust the Commission is continuing to assess it and consider the implications of the various depreciation options available.

223. Technology change in the telecommunications sector means that Chorus faces a growing asset stranding risk across all of our assets. We believe the tilted annuity approach is the best option to address this risk available and the approach most supported by economic analysis. We recommend the Commission applies a tilted annuity method in its final decision.

224. NERA has shown that Chorus has material uncompensated asset stranding risk.[76] The 10-basis point ex ante stranding allowance in the IMs is, as recognised by the Commission,[77] only a partial solution and additional revenue adjustments such as front-loaded depreciation are needed. In May 2021, we provided evidence in the NERA and Incenta expert reports alongside our MAR model that showed the tilted annuity method, with a -4% tilt rate, would successfully address the asset stranding risk.

225. The draft decision suggests that Chorus' proposed tilt rate, -4%, "is likely to be disproportionately weighted towards wireless services" and that a lower rate would be more appropriate were tilted annuity to be used.[78] We do not agree and query if the evidence put forward by Incenta[79] in support of the 4% tilt rate has been misunderstood.

[76] NERA, Frontloading depreciation to account for asset stranding risk, 12 May 2021.
[77] Commerce Commission, Fibre IM Reasons paper, October 2020, paragraph 6.1216. In Chorus' submission on the IM amendments process, we are proposing a further adjustment to the asset stranding allowance in the IMs.
[78] Draft decision, paragraphs B73 & B76.
[79] Incenta report for Chorus, Advancing the return of capital in relation to regulated fibre assets, May 2021.

226. Chorus' proposal was not to use the tilt rate that would be justified by wireless trends alone (-6%) but to use a tilt rate consistent with the experience of the whole of the New Zealand telecommunications sector, and supported by similar experience in Australia and Europe. The -4% tilt applied already incorporated a greater share of fixed line infrastructure.

227. Wireless services pose the strongest and most present competitive threat to our fibre network, exacerbated by the current market structure and regulatory settings. Therefore using a rate that contains a mixture of wireless and wired telecommunications services, and best reflects price trends in New Zealand, seems a reasonable approach. We do not consider the evidence available provides any basis to choose a lower rate.

228. The alternative depreciation approach that we proposed included a degree of conservatism given that the objective was to maintain the existing level of asset stranding risk, by having Chorus' cost-stack keep pace with the likely improvement in price offerings of our competitors. However, we would still need to recover the FLA, which is not a cost faced by our competitors, and so we would still be subject to this structural disadvantage until the FLA has been fully recovered (14 years).

229. The draft decision also states that a tilt rate influenced by price trends in wireless services would not be appropriate because wireless and fibre services are not close substitutes for each other. And that the need for fibre supply to mobile cell sites provides a form of hedge for Chorus against the competitive threat from FWA.[80] These points are fundamentally wrong:

    229.1 FWA is an inferior product. However, even so MNOs actively market FWA over fibre and FWA is growing in market share. It is clear that end-users are choosing between fibre and FWA. We expect competition to step up as 5G / mmWave fixed wireless becomes more prevalent.

    229.2 The technical superiority of fibre over FWA is only relevant if end-users have accurate information to make informed choices. Unfortunately, this is not the case. MNOs are incentivised to overstate the substitutability of FWA for fibre in order to increase sales of FWA. Chorus relies principally on those same RSPs as its channel to market and does not itself have a direct relationship with end-users. The Commission is in possession of numerous examples of MNOs misleading end-users and discriminating against fibre in favour of their FWA services. That places Chorus at a disadvantage relative to FWA providers and increases the risk, in practice, of stranding from FWA uptake.

    229.3 It is not realistic to assume that Chorus would earn substantial extra revenues from supplying fibre backhaul to mobile cell sites. MNOs are not supplying FWA over mobile networks to generate a benefit they can share with the fibre providers, nor are they building a new FWA network (which would imply more backhaul connections). The MNOs are aiming to leverage capacity within their existing mobile network to supply end-users at a lower cost. We would expect they would only invest in limited infill as part of this process. As Chorus charges on a per-connection basis, we would not expect material additional

[80] Draft decision, paragraphs B74-B75.

revenue in this scenario.[81] Also, in some cases (generally in lower cost areas) backhaul is a competitive market and MNOs can provide their own.

Diminishing value method (draft decision)

230. The draft decision puts forward DV as the method for alternative depreciation, rather than tilted annuity, on the grounds that "it provides a gradual tapering-off of depreciation rather than the sudden reduction in revenue at the end of the asset's life… and it is well-understood by industry and straight-forward to implement".[82]

231. As noted above, DV is a reasonable approach for PQP1 but is not our preferred method.

232. The 'tapering off' feature of the depreciation is a material disadvantage of the DV method. On our estimate, $200m of the FLA value, and the enhanced stranding risk, will remain at the end of the FLA's life. This outcome is inconsistent with the Commission's acceptance that in a competitive market an operator would seek to recover an asset akin to the FLA as quickly as the market would bear.

233. In theory, the remaining value could all be recovered in one lump sum in 2036 but we do not believe such a revenue shock would be possible or desirable. Any deferral of recovery beyond the life of the FLA would not be consistent with the NPV=0 principle. So Chorus' expectation is that if the DV method is applied for PQP1, we would need to change to a different depreciation profile in future, possibly as early as PQP2, to avoid unusual revenue effects later in the life of the FLA.

234. In terms of a method that is well-understood and straight-forward to implement, we do not see a material difference in this case between DV and tilted annuity. The end-of-life adjustment for DV, noted above, suggests DV is not as straightforward as suggested in the draft decision. The DV method is primarily used in tax contexts, while tilted annuity has been applied in previous regulatory decisions. Chorus has built and provided the Commission with a MAR model, which contains both DV and tilted annuity approaches and there should be no difference in the ease of applying them to a single notional asset.

Alternative option: shorten FLA life and apply straight-line depreciation over 8 years

235. If the Commission considers that an alternative method needs to be more straightforward than tilted annuity, we suggest that it simply reduces the FLA life and applies straight-line depreciation over that shorter life.

236. We suggest a life of 8 years, which would enable Chorus to recover the value of the FLA over the first two or three regulatory periods (depending on the length of PQP2). This would ensure investors recover their losses relatively quickly; it would also more convincingly address asset stranding risk for the FLA. Our analysis suggests that straight-line depreciation of the FLA over 8 years would deliver similar revenues in PQP1 (after in-period smoothing) to Chorus' proposed tilted annuity approach.

[81] Even if the scenario did eventuate, the MNO business case for FWA backhaul must mean they are paying Chorus less or it would not work for them.
[82] Draft Decision, paragraph B9.

For tilted annuity or diminishing value, the FLA life should be set at 14 years

237. The FLA life calculated by Analysys Mason is 14.1 years. We understand the Commission intended, through the draft decision, to apply a life of 14 years exactly. In a scenario where the Commission chooses to progress the option, noted above, of applying alternative depreciation by shortening the FLA life to 8 years, then a 14-year life would be superseded. If the Commission chooses to apply alternative depreciation using a tilted annuity or DV method, Chorus is comfortable with an FLA life of 14 years.

238. Also, the draft decision uses Chorus' proposed FLA life and treats it as an alternative depreciation method under clause 3.3.2(5) of the IMs. Chorus' submission on the Initial PQ RAB[83] set out why Chorus' calculation of the FLA life is the most accurate approach. It also describes why our calculation complies with the IMs and does not need to be treated as an alternative depreciation method. In particular:

    238.1 The method developed by Analysys Mason and applied by Chorus returns values across PQP1 that approximate the UFB-related asset group profile.

    238.2 The Commission's method produces an FLA depreciation profile that is not a good fit with the depreciation profile for the underlying UFB-related assets.

    238.3 Some of the losses in the FLA comprise unrecovered opex, which would suggest that a shorter FLA life is to be preferred.

    238.4 Chorus' method for calculating the FLA life is a weighted average method where the weights used are the initial RAB values of the UFB-related core fibre assets. It is therefore compliant with the IMs.

Implications of Chorus' proposed IM amendment for the asset stranding allowance

239. In our submission on the proposed November 2021 IM amendments, we have proposed an amendment to the asset stranding allowance in the IMs, where the fixed 10 basis points allowance is removed from clause 3.3.5 of the IMs and replaced with a requirement to set the asset stranding allowance as part of each PQ determination.

240. If this recommendation is accepted, the Commission would need to determine the asset stranding allowance to apply during PQP1. We consider that an increased allowance above 10 basis points is clearly justified based on the new evidence presented by NERA in its report 'Frontloading depreciation to account for asset stranding risk', 12 May 2021, which shows that 10 basis points is a small fraction of the asset stranding risk facing Chorus given market circumstances.

241. Our view is that an allowance in the region of 60 basis points would be appropriate for PQP1 based on NERA's analysis. This provides an appropriate allowance for stranding risk with minimal risk of overcompensation given that it is at the low end of NERA's range. If needed, the alternative depreciation for the FLA could be correspondingly scaled back (e.g. by a lower tilt rate).

242. We believe this would be a better balance between an IM allowance and adjusted depreciation for addressing stranding risk. We put forward a proposal focused on

[83] Chorus, Submission on Commission's consultation on Chorus' initial PQ RAB, 28 May 2021, paragraphs 69-88.

alternative depreciation alongside our MAR model which reflected the IMs in place at that time. Now the IMs are being reopened, we are putting forward what we consider to be a better approach for consideration.

Revenue path

Compliance requirements

243. We support many of the compliance requirements and much of the drafting of the price-quality determination and the section 193 notice as they relate to revenue.

244. However, the requirement to produce multiple price compliance reports each year is onerous and unworkable. A better solution is to require a price compliance report once each regulatory year – by June in each year, as this will align with our board reporting and price setting cycles and ensure the most accurate information is available at the time of forecast price compliance reporting.

245. We discuss price compliance reporting and other revenue path technical areas where improvements or clarifications are needed in **Appendix B**.

246. We consider that a roll-over of prices that are in effect on 31 December 2021 should be an option for Chorus to demonstrate compliance with the 2022 revenue path; we discuss this below.

2022 revenue limit should not require material price adjustments in that year

247. We have previously raised with the Commission the need for transitional requirements for complying with a revenue path for the 2022 calendar year, but this is not mentioned in the draft decision. Transitional requirements would enable Chorus to comply with the 2022 revenue limit within the constraints brought about by the timing of the Commission's final price-quality decision and Chorus' customer contracts.

248. As the Commission is aware, Chorus is required to consult with our customers on any price changes and then give three months' notice before changes are made. For most FFLAS products, we are on a 1 October price change cycle and contractually prevented from increasing prices more than once every 12 months.

249. Prices for the pricing year starting 1 October 2021 have already been consulted on with customers and formally notified to them. A consequence is we would not be able to quickly respond to a final price-quality decision that set a revenue cap for the 2022 calendar year that was materially different from current prices adjusted for CPI.

250. Specifically, price increases would not be possible before 1 October 2022 for key products. For price decreases, it would take some time after the final decision at the end of 2021 for us to recalculate and consult on prices and then provide the required three months' notice to RSPs; it would be difficult to adjust prices in time to achieve a revenue reduction that would be sustainable for future years.[84]

[84] This is because a final PQ decision in mid-December that required a revenue reduction would then require consultation with RSPs and three-months' notice of any price change, so the price reduction that we would make some months into the year would need to be larger to reflect the delay, creating significant price volatility.

251. We note that the draft decision currently avoids such issues by setting a revenue allowance for 2022 that aligns well with Chorus' pricing for the year starting 1 October 2021 and demand expectations. If the final decision has a similar revenue allowance for 2022, there will not be a problem. However, if the final decision requires revenue reductions in 2022, then that would be difficult to manage.

252. We request that the 2022 revenue allowance is at least equivalent to Chorus' pricing from 1 October 2021 such that no material revenue reduction should be required in 2022. There are several ways this could be achieved, including using a growth factor for the price path that aligns to Chorus' revenue projection for regulatory year 2022.

Wash-ups

Scope of the wash-up mechanism

253. Chorus supports the use of a wash-up mechanism as part of the revenue path. Any regulated provider will face a combination of controllable and uncontrollable costs. Regulated providers should not be subject to windfall gains or losses for material costs they cannot control and it is reasonable for these costs to be washed up.

254. To promote certainty about what can and cannot be washed up, the list of wash-ups in the IMs should be complete and the Commission should not retain discretion to wash-up for other items not listed in the IMs.

255. The draft decision proposes five specific wash-ups in addition to the wash-up for over- or under-recovery of revenues against the maximum revenues allowance (see section 196 of the Act).

256. The Commission has explained that it will include an explicit wash-up where:[85]

    256.1 The purpose of Part 6 or workable competition is best promoted by Chorus not bearing the risk that outcomes differ from forecast (often in terms of the economic principles and incentive framework); and

    256.2 There is no existing mechanism that provides for such outcomes.

257. Having considered these principles and potential options, and as discussed in our submission on the August 2021 IM amendments,[86] we propose that the three following items are also washed-up (and these wash-ups are added to the list in clause 3.1.1(8) of the IMs):

1. The difference between actual and forecast cost allocator metrics

258. Chorus' FFLAS business is still growing and the rates of demand, expenditure and other relative utilisation indicators over time are particularly hard to forecast. There is a material risk that some forecast allocator metrics turn out to not reflect the actual utilisation of expenditure or assets that are shared between PQ-FFLAS and other services. In particular, given the forecast uncertainty, Chorus has set allocators for PQP1 based on past actuals which in light of a growing fibre business could lead to actual utilisation (between PQ-FFLAS and other services) varying materially over PQP1.

259. To manage this risk, and to mitigate the need for extensive debate on cost allocator metrics at the time revenues are set, it is reasonable to wash-up for the revenue impact of differences between forecast and actual allocator metrics, i.e. that this risk is not borne by Chorus. This is especially important given the transitional nature of PQP1. We note that this wash-up incentivises accurate forecasting of allocator metrics.

260. Washing up for changes in the allocator metrics is also reasonable in the context of the revenue cap that is applied to Chorus. If Chorus's revenue is unexpectedly high,

[85] Draft Decision, paragraph A136.
[86] Chorus submission, Amendments to the Input Methodologies for Fibre, August 2021 amendments, 24 June 2021.

this may be due to a faster migration to fibre. That faster migration, in turn, would mean that Chorus's copper revenues would fall and so Chorus would recover less shared costs from copper. Under a revenue cap there is no increase in fibre revenue to reflect this. By "washing up" for the allocator metrics, the faster migration to fibre would mean the revenue cap for fibre would increase to reflect the greater allocation of shared costs to fibre. Hence, for the shared costs that would no longer be recovered from copper, there would be an opportunity to recover them from fibre.

261. This will promote the long-term benefit of end-users by preserving the expectation of an NPV=0 outcome and reducing the risk of windfall gains or losses. It will promote competition by ensuring the allocation of costs between FFLAS and non-FFLAS services is correct over time.

2. The difference between forecast and actual opening RAB values for PQP2 and later

262. The primary purpose of the wash-up between the transitional and final initial PQ RAB is to ensure there is a correct opening RAB value for PQP1. There is a similar wash-up (recoverable cost) for the energy firms regulated under Part 4 with respect to the value of commissioned assets forecast to be included in the opening RAB for the forthcoming regulatory period. We consider that this wash-up should also apply to Chorus such that the opening RAB for each regulatory period is corrected for this variance.

263. This will promote investment incentives, and hence the long-term benefit of end-users, by ensuring that Chorus is able to recover the actual cost of its new investments in future periods and minimises excessive profits by ensuring that prices reflect actual opening RAB values for these investments over time.

264. While this wash-up will not affect revenues set for PQP1, it is desirable that it be specified now to promote regulatory certainty and minimise future consultations on IM amendments.

3. Forecast v actual CPI for revenue path

265. As discussed in item B8 of **Appendix B**, the draft determination requires forecast building blocks revenue (**FBBR**) to be rolled forward using the term $(1+\Delta CPI_{t-1})$. However, this is inconsistent with the formula for in-period revenue smoothing which means the ex-ante expectation of real FCM will not hold. Failure to correct this will result in error due to variability in inflation. We expect this means Chorus will under-recover the PV of its maximum allowable revenue (**MAR**) by approximately $4m for PQP1. The substantial variation in CPI from year to year and between actuals and forecasts in recent years means that this issue is more significant than it may have been previously.

266. A better approach is to roll-forward FBBR using forecast CPI for the current regulatory year, using the term $(1+\Delta CPI_{t})$. This will give Chorus an ex-ante expectation it will be able to recover its MAR, but would then require a wash-up for the difference between forecast and actual CPI for year t.

267. This will promote the long-term benefit of end-users as it would preserve investment incentives by ensuring Chorus can recover its MAR and ensuring that prices are consistent with actual rather than forecast CPI over time.

Chorus agrees there should be no limit on undercharging

268. We support there being no cap on the wash-up accruals that can be generated (i.e. is unconstrained) or that can be carried forward in the wash-up account and we support the draft decision to not apply an undercharging limit to Chorus' wash-up. Section 196 of the Act requires a symmetric and unconstrained wash-up so we do not consider that any other approach is available.

269. As the Commission knows, the under-charging limit was developed for consumer-owned EDBs, who could build up substantial wash-up balances where they choose not to fully recover their allowable revenues. Chorus faces very different incentives and an undercharging limit is not necessary (as well as being inconsistent with section 196).

Wash-up drawdowns should be applied in a principled manner

270. The draft decision indicates that the Commission is retaining discretion about how the wash-up amount is determined.[87] Chorus does not oppose the Commission having some flexibility to determine the drawdown amount to be applied to the next regulatory period as this can help to manage price or revenue shocks in either direction if a wash-up balance is very large. However, we would expect that judgement to be exercised in line with the following principles:

    270.1 Wash-up accruals should be available to recover via revenues as soon as possible to facilitate timely recovery and avoid excessive accumulation in the wash-up account.

    270.2 The full balance would only not be washed-up within a single regulatory period if material reductions in revenues or price-shocks for end-users are likely to occur – after the Commission has availed itself of other revenue smoothing tools such as alternative depreciation profiling.

Wash-up should provide in full for the requirement of section 196 of the Act

271. In the draft IM amendments relating to wash-ups it was not clear that actual allowable revenue comprised the sum of building blocks revenue, pass-through costs and the wash-up amount. Our submission on the August 2021 IM amendments consultation included drafting to clarify the scope of the wash-up and of actual allowable revenue.

272. Also, the draft decision stated the section 196 requirement "at a minimum… encompasses differences in recovery due to differences in forecast versus actual levels of demand".[88] This interpretation is too narrow and does not fully comply with section 196 – the legislative requirement is to wash-up for "any over-recovery or under-recovery of revenue", not just differences caused by variances in forecast demand, and our suggested drafting has clarified this point.

[87] Draft decision, A46. Also paragraph 3.12 of the IM Amendments consultation paper.
[88] Draft Decision, paragraph A135.

Technical improvements to the wash-ups

273. In addition, we have proposed a number of changes to clarify and improve the workability of the wash-up mechanism, these are described in **Appendix C**. Our submission on the August 2021 IM amendments consultation proposed other technical amendments to improve the operation of the wash-up mechanism. We do not repeat those here.

Scope of FFLAS

Location of the end-user

274. The Commission considers that the dividing line between PQ regulation and ID-only regulation under regulation 6 depends on whether a service is provided in a geographical area where an LFC other than Chorus has installed a network under the UFB initiative.

275. Under its interpretation of regulation 6, the location of the end-user determines where the service was provided and thus whether PQ regulation or ID-only regulation applies. Overall, we agree with this proposal.

276. One exception to the proposed approach is the treatment of aggregated services that support multiple (and possibly dispersed) end-users.

277. As outlined in our recent submission on geographically consistent pricing,[89] we appreciate that the Commission has signalled a more nuanced approach to services where the location of the end-user is not known. However, this appears to mean:

    277.1 Determining all transport services, other than those provided solely within other LFC areas, to be included as PQ-FFLAS

    277.2 Colocation and other similar services are provided at the location of the facility regardless of the actual location of the end-users.

278. We consider that, as a matter of principle, if we can establish that FFLAS is provided substantially for the benefit of end-users in an LFC area, it should be ID-only FFLAS. This may occur if we expand our services in other LFC areas which could include the use of our existing UFB exchanges.

List of FFLAS services (Attachment I)

279. The Commission has published for comment, as Attachment I, a list of services that it describes as 'Chorus categorisation of FFLAS'.

280. The background is that the Commission asked us to reconcile a list of all (both FFLAS and non-FFLAS) services it had received from our financial accounts as part of our initial asset valuation response, against the services categories set out in the final IMs decision (Voice services, Bitstream PON services, Unbundled PON services, Point-to-point services, Transport services, Co-location and interconnection services, Connection services).

281. If the Commission's intention is to provide stakeholders clarity on the scope of FFLAS services that have been applied in PQ and provide them an opportunity to comment, we do not think the list in Attachment I is useful for that purpose. It represents a view of how our general ledger currently records revenue from all services, reconciled – as requested by the Commission – against the final IMs decision service categories.

[89] Chorus, Submission on Section 201 Draft Guidance, 24 June 2021.

282. We think it would be more meaningful for stakeholders to be able to comment on a list of key FFLAS services (in relation to the Commission's categories) rather than a line-by-line breakdown of revenue category. At **Appendix D** we have included a list of core FFLAS services we offer to retailers.

283. The Commission also suggests in the draft decision that questions remain about the level of Chorus Regional Transport (**CRT**) allocated to PQ FFLAS.[90] In fact, no part of Chorus' CRT service is FFLAS, as acknowledged by the Commission in its final IMs decision,[91] and so CRT is not listed in Appendix D. This is based on CRT being an inter-candidate area (POI to POI) transport service.

[90] At paragraph 2.34 of the draft decision.
[91] Commerce Commission, *Fibre Input Methodologies Final Decisions Reasons Paper*, 13 October 2020, para 2.108.5.

Appendix A1: Response to specific proposals

The table below provides specific responses to each proposal from the expenditure chapter. Many of the responses build directly on the points covered above.

No.	Ref	Draft decision	Chorus response
	Individual capex		
A1	4.47.1 4.48-4.53 4.146-4.153 4.174.3 4.182-4.187 Attachment G	Chorus must apply for individual capex approval for incentive connection capex. $9.2m[92] reduction to connection capex	**Retention/incentive payment connection capex – individual capex.** This is valid connection expenditure. Connection expenditure cannot be approved as individual capex, so this investment must be approved as part of the connection capex baseline allowance. This is an efficient cost that will benefit all FFLAS end users directly (by spreading shared costs) and enhance telecommunications sector competition. The IMs should be amended to clarify that this expenditure can be treated as capex, consistent with GAAP (NZ IFRS 15). There is no GCP compliance issue to address.
A2	4.47.2 4.48-4.53	Chorus must apply for individual capex	**Retention/incentive payment base capex – individual capex.** Transfer to individual capex is not necessary or workable (given timing) nor consistent with the purpose of individual capex. Uncertainty would not reduce prior to individual capex submission, reporting is possible for base capex, it's not clear ringfencing has any economic benefit,

[92] Chorus also does not agree with the Commission's proposal to adjust this capex amount from $10.2m down to $9.2m in relation to their demand forecast adjustment. Please refer to Expenditure section of this submission (Adjustments for new demand information are an overreaction) and item 4 in this table.

No.	Ref	Draft decision	Chorus response
	4.138.2 4.146-4.153 Attachment G	approval for retention capex[93]. $34.7m[94] reduction to base capex	and the Commission has sufficient information to approve now. It would not be prudent to pause incentive programmes while waiting for individual capex approval. All retention capex should be approved now. Incentives are an efficient cost that we have successfully prioritised to drive FFLAS revenue growth. This expenditure benefits FFLAS users directly and enhances telecommunications sector competition. The IMs should be amended to clarify that this expenditure can be treated as capex, consistent with GAAP (NZ IFRS 15). There is no GCP compliance issue to address.
A3	4.47.3 4.138.1 4.154 4.156.1	Chorus must apply for individual capex approval for innovation capex. $36m reduction to base capex.	**Innovation capex – Individual capex.** We agree that individual capex is suitable for any future PQP1 programme of long-horizon innovation investment. $36m is the unallocated innovation spend. Only $34.4m is included in our PQ FFLAS forecast. The Commission should reinstate the $1.6m over-reduction. A further $3m relating to in-flight projects should be approved as base capex. The balance of $31.4m should be reallocated to higher priority base capex. Our appetite for this long-horizon innovation investment has declined due to lower than expected MAR and the need to meet higher than expected demand for network extension capex (due to COVID-19 disruption being less severe than anticipated).

[93] The Commission uses *retention capex* to refer to customer incentive payment capex. Our proposal uses the same term to refer to all expenditure capitalised under NZ IFRS 15. We have adopted the Commission's terminology here to refer to incentive payment expenditure.
[94] As this figure is shown net of demand forecast adjustments, we are not sure how this number reconciles to our expenditure forecast.

No.	Ref	Draft decision	Chorus response
			In recent analysis we found our proposal under-forecasts efficient network extension and lifecycle capex by more than the remaining $31.4m allocated to innovation. As such, the $31.4m should be reallocated to other priorities in the following subcategories: • $4.3m – network sustain and enhance | resilience • $4.4m – network sustain and enhance | site sustain • $4.6m – IT and support | network and customer IT • $12.3m – IT and support | business IT • $5.8m – Extending the network | new property developments
	General		
A4	4.77 – 4.80 4.138.3	Adjust installation demand down by 28.4% to reflect December 2020 MBIE construction pipeline report. $21.8m reduction to baseline connection capex	**Demand forecasting adjustment**. MBIE December 2020 forecast captures transient COVID-19 related uncertainty. We have seen strong property development demand, and new policies to improve housing supply. While immigration has been disrupted, there is still a sizeable housing shortage and new housing remains supply (rather than demand) constrained. The proposed adjustments also incorrectly extrapolate from new property demand to overall installation demand, most of which is for existing properties (and unaffected by construction activity). New property demand has no link to average throughput per user (ATPU), and an immaterial link to bandwidth demand which are both used to forecast network capacity expenditure. In addition, new property demand does not materially influence network maintenance. It is unclear how the Commission has applied the MBIE forecast to arrive at the proposed expenditure reductions.

No.	Ref	Draft decision	Chorus response
		$1.4m[95] reduction to maintenance opex $4.2m[96] reduction to network capacity base capex	Our proposed baseline connection capex, network capacity capex and maintenance opex forecasts should be approved. Any other adjustments made for demand forecasting should be reversed.
A5	4.106 – 4.136	Adjust mix of capex and opex cost escalators. Obtain updated escalator forecasts.	**Cost escalation.** Agree with adjusted mix. Agree forecasts should be updated for Real Price Effects (RPE) prior to the final PQ decision.
A6	4.96-4.105	Defer cost allocation decisions for consideration through the IAV process.	**Cost allocation**. Agree decisions should be addressed through IAV process. However, the Commission has made some cost allocation judgements in their draft decision, including in relation to self-insurance and Network and Customer IT. If cost allocation is deferred as part of the IAV process, as the Commission has proposed, these adjustments prejudge that process.

[95] We note that the draft decision redacted this number. We had concerns that the overall maintenance opex reduction was incorrect (due to the Commission taking the full value not the FFLAS proportion for the pits and manholes adjustment), however we are comfortable with this figure now being public, as we can now provide context to explain the draft decision error.

[96] Calculated as $2.4m for transport plus $2.7m for aggregation less the specified adjustment for investment thresholds of $0.89m per attachment D of the draft decision

No.	Ref	Draft decision	Chorus response
	Base capex		
A7	4.77 – 4.80 4.138.3 4.147 Attachment D	Reduce installation capex for lower demand forecast. Chorus has treated base installation capex as a balancing item for total installation costs. $ reduction unclear	**Demand forecast adjustments – installations base capex**. It is not clear how much the Commission proposes to remove or how it has assessed this amount for adjustment of installations base capex. As per item A4, the demand forecast should not be adjusted. Base installation capex is not a 'balancing item', but it does encompass installation-related costs that cannot be included in connection capex because they are either not sufficiently volume-sensitive or relate to 'intact' installation work. Given the nature of these costs, it would not make sense to adjust for changes in new property development volumes.
A8	4.77 – 4.80 4.138.3 4.162-4.163 Attachment D	Reduce network capacity capex for lower demand forecast and replace Chorus assumptions for thresholds triggering asset replacement. $2.7m reduction to aggregation capex[97]	**Network capacity - demand forecast and investment threshold adjustments.** Our interpretation of the Commission's draft decision is that the reduction uses an assumption-based link between demand and investment, as well as a misunderstanding of our investment policies. As per item A4, the demand forecast should not be adjusted. Property development is not a driver of ATPU. ATPU is driven by consumer technology, demand factors and plan speeds. Property development has only limited impact on the number and location of demand. As such, the property development outlook has no material impact on forecast demand for network capacity investment.

[97] The Commission's rationale is inconsistent between paragraphs 4.80.3 and 4.162-4.163. Calculations in attachment D also appear not to reconcile.

No.	Ref	Draft decision	Chorus response
		$2.4m reduction to transport capex	Additionally, the Commission has misunderstood how we apply our 60% threshold as a trigger for investment. Where dual links provide both normal operational services and failover protection, we invest at 30% to ensure compliance with the investment threshold in a post-failover scenario.[98] This expenditure should be reinstated.
A9	4.77 – 4.80 4.138.3 4.164-4.166	Reduce field sustain capex for lower demand forecast. Chorus has not provided sufficient information and input assumptions involve a great deal of uncertainty. $1.9m reduction	**Demand forecast adjustments – field sustain.** As per item A4, the demand forecast should not be adjusted. It is not clear what investment the Commission proposes to remove or why.[99] Uncertainty is not a reason to remove expenditure. Uncertainty is inherent in all planning and the aim is to ensure we have a reasonable *ex ante* expectation of recovering efficient costs, which will always include some allowance for costs that are uncertain.
A10	4.138.4 4.167-4.170	Adjust overall base capex by 5% for over-forecasting, uncertainty in base year, and lack of justification.	**Overall base capex adjustment for over-forecasting**. Not clear how the Commission has calculated this adjustment of 5%. This adjustment should be reversed. The draft PQ decision links this adjustment to what it understands to be an efficiency target modified from our business plan. We consider this to be an inappropriate application of our business plan tool introduced as a deliverability adjustment when Chorus was scaling up its connect programme concurrently with peak network build. Since

[98] The model we provided the Commission under RFI012 has check sums for these cases to validate that the 60% threshold is maintained under failure of one side.
[99] Draft decision, Paragraph 4.138.3 implies this field sustain adjustment relates to the Commission's demand forecast adjustments, but that's not clear from paragraphs 4.164-4.166.

No.	Ref	Draft decision	Chorus response
		Consistent with 'stretch' targets used in Chorus business planning and with track-record between historical forecasts and actual capex. $28.2m reduction	then top down adjustments to capex and opex have been used as forced prioritisation to stay within debt metrics. As described in the expenditure section of this submission, there is no evidence of over-forecasting in the outyear of our business plans – in fact, there is strong evidence of persistent under-forecasting. Further, it is not good practice to build prospective efficiency gains into allowances, particular where the evidence shows under-forecasting is the problem. Gains are inherently uncertain, and it is better to adopt a revealed efficiency approach that internalises this risk and shares upside over time. Sharing ratios are inconsistent for PQP1 but favourable to end users.
A11	4.158	Reduce Network & Customer IT by $1m to: • exclude costs associated with [**CHORUS CI**], and • to allocate some product development costs away from FFLAS. $1m reduction.	**Network and customer IT & Corporate Capex.** Expenditure should not be removed. The draft PQ decision maps the comments on [**CHORUS CI**] as these do not relate to Network & Customer IT, but rather Corporate capex. It is wrong to assume an increase in costs can only be inefficient. As with many parts of our business we need to review our delivery model as work volumes change. Step changes in fixed costs may efficiently contain variable costs or achieve a change in service quality. In this case, post-submission we have confirmed that we can delay the forecast transition and defer the associated costs. However, we have reallocated this expenditure to help address under-forecasting elsewhere. Cost allocation is supposed to be resolved as part of the IAV workstream, so this adjustment prejudges the outcome of a separate process.

No.	Ref	Draft decision	Chorus response
A12	4.159	Approve IT optimisation expenditure but adjust opex to reflect anticipated cost-out efficiency gains.	**IT capex optimisation.** The draft decision applies the method to the wrong amount of IT capex and has not recognised that our expenditure proposal already included opex reductions enabled by this investment. We have clearly communicated this to the Commission and its consultants. The opex adjustment (that the Commission relates to this IT capex optimisation calculation) should be removed. Conceptually the approach of approving IT optimisation capex and making corresponding expenditure (capex or opex) adjustments to reflect efficiency gains is sound. This is a standard part of our planning for this type of investment. However, it is not necessary or appropriate in this case as we have already reflected these reductions in PQP1 forecasts. Importantly, the draft PQ decision overestimates the amount of IT capex directed at near term cost reductions by a factor of more than five - referring to $67.3m IT capex where the correct amount is a subset of the $12.7m Business IT customer experience and optimisation subcategory. Refer opex section below for more detail (row 19).
	Connection capex		
A13	4.174.1 4.180-4.181	Reduce connection capex to reflect trend-based ('smoothing') extrapolation of unit costs. $20.4m reduction	**Unit costs – Connection capex**. The draft decision's approach to 'smooth' unit costs by attempting to roll costs forward from a build phase of high volume, high density, standard installations to a period during PQP1 of expected lower volume, more dispersed and increasingly complex installations is not appropriate. Trend-based extrapolation is too simplistic given we are not a steady state business. This is not a robust basis for adjusting forecasts and it is unclear how the Commission has calculated the reduction of $20.4m for 'smoothing' unit costs.

No.	Ref	Draft decision	Chorus response
			Historical comparators are not fully reliable because regulatory reporting (including key concepts such as connection capex) is new and accounting treatments have changed over time. Among other factors, changes in accounting policies in 2017 and 2018 altered the types of costs being capitalised. This means that unit costs from 2017 and 2018 are not directly comparable to later years.[100] Aside from accounting and reporting factors, underlying drivers of change in unit costs include changing mix with more challenging installations and changing in-field and service costs as overall work volumes decline. Some variation is to be expected in forecasting unit costs for connections given the context for the build of our fibre network and installations. Key drivers have the effect of increasing our unit costs for connections in PQP1 (when compared to historic costs): • [**CHORUS CI** [101]] • increase in service desk costs per connection. As some costs are fixed, reducing connection volumes does not lead to a direct reduction in support costs required to deliver service levels, and the number of challenging installations increases requiring an increased level of support over time.

[100] Please refer to response to Attachment A4 of the 16 April 2021 section 221 notice.
[101] Please also refer to response to information request A22 in document C.RP1.22 B4. Regulatory Information, available at https://comcom.govt.nz/__data/assets/pdf_file/0024/234366/Chorus-Regulatory-information-16-December-2020.pdf

No.	Ref	Draft decision	Chorus response
			These factors are built into our business-based forecasts and should not be ignored. The Commission view that this shows uneven unit costs is in no way a reason to consider this as over-forecasting by Chorus. We also noted to the Commission that in some cases, 2020 actual costs have come in higher than our forecast costs, adding further evidence that we have not over-forecast our PQP1 expenditure.[102] The Commission should reverse its approach to 'smoothing' of our unit costs for connections as our approach to forecasting is robust.
A14	4.77 – 4.80 4.174.2 4.188-4.189	Reduce forecast volumes to reflect December 2020 MBIE construction pipeline forecast. $21.8m reduction[103]	**Demand forecasting adjustment – Connection capex**. Refer item A4.
A15	4.47.1 4.48-4.53 4.146-4.153 4.174.3	Remove incentive payments, with option for Chorus to apply for individual capex approval. Do not think this is a connection cost, there is a risk of	**Retention/incentive payments – connection capex**. Expenditure should be approved as connection capex. Refer item A1 for objections to individual capex treatment. Incentive payments clearly fall within the definition of connection capex as they are directly incurred costs of connecting new end-users. Our view is that there is a direct,

[102] Please refer to response to Attachment A4 of the Commission 16 April 2021 section 221 notice.
[103] Also using reduced unit costs.

No.	Ref	Draft decision	Chorus response
	4.182-4.187 Attachment G	windfall, and a competitor submitted against incentive payments. $9.2m[104] reduction in baseline connection capex	one-to-one correspondence between there being uptake of a new connection and our having the cost associated with the incentive. Our customer incentive programme is well established and has been a key part of the UFB success story – driving uptake, supporting competition and delivery efficiencies. Our proposal meets the Commission's proposed 'commercial rationale' test for incentives, even though a less stringent test would be appropriate. Competitor objection to incentives is to be expected and is indicative of the pro-competitive impact of our incentive programmes. This is reinforced by independent retailer support for the programmes. The draft decision also misrepresents and overstates the value of potential incentive payments.[105] Refer to further explanation in the Expenditure section of our submission (under heading 'Customer incentives must be approved as base and connection capex), Appendix A2 – Incentive payment expenditure and the attached expert report from NERA.
A16	4.175-4.177 4.190	Split installation cost group two (standard – installation – general) because the spread of costs is too	**Connection cost groups**. Neutral. The risk of gaming is overstated. Installation method is dictated by site conditions, and our overriding incentive is to encourage uptake, including by providing a good installation

[104] Chorus also does not agree with the proposal to adjust this connection capex amount for incentive payments down to $9.2m (from 10.2m in our connection capex proposal) in relation to their demand forecast adjustments. Please refer to Expenditure section of this submission ('Adjustments for new demand information are an overreaction) and item 4 in this table.

[105] In paragraph G48, the Commission states it has some concerns regarding credits it is aware of, such as "the credit of up to $800 if a copper customer is signed up to 1G or Hyperfibre." This Commission statement referring to an $800 credit is incorrect. Based on our incentives programmes, the maximum credit that a copper customer could become entitled to if they signed up to a 1G or Hyperfibre product would be $500 (and that maximum amount is a very rare situation). Incentives for 1G connections are typically $90-105 and incentives for connections to Hyperfibre are typically a credit of $200-$300. The most common incentive payments are $60 for copper to 100M.

No.	Ref	Draft decision	Chorus response
		wide and may enable gaming.	experience. As such, it would be counterproductive for us to, for example, delay more costly installations to take advantage of a small regulatory gain.
	Opex		
A17	4.195.1 4.209-4.211	Adjust network maintenance for updated demand forecast[106] and remove pits and manholes remediation programme. $9m reduction in opex	**Network maintenance opex – demand forecast adjustment, pits and manholes**. Refer item A4 for response on demand forecast adjustments. Pits and manholes programme is prudent and efficient and should be fully reinstated. The Commission has incorrectly attributed 100% of the $7.6m[107] proposed expenditure to FFLAS (and subtracted this from opex allowance, the correct allocation is $2m). Pits and manholes expenditure was a post-June 2020 addition to our business plan following identification of a need to implement a condition assessment and remediation programme to address health and safety risks. It is inappropriate to cut programmes we are implementing to address public safety risk. As we noted in our expenditure proposal,[108] "*In a recent field audit of the condition of manholes we identified that 18% of manholes had issues and required remediation. To address this, we are implementing a condition assessment programme where each manhole is inspected, every 10 years. We intend to use a proactive maintenance approach to faults we identify. During PQP1 we will develop our internal capability to*

[106] We note the rationale for this adjustment is inconsistent and unclear. In the Draft decision, paragraph 4.195.1 it states the reduction is to "reflect historic trends", but 4.210 says it is due to the change in demand forecast.
[107] We note that the draft decision redacted this number. We had concerns that the overall maintenance opex reduction was incorrect (due to the Commission taking the full value not the FFLAS proportion for the pits and manholes adjustment), however we are comfortable with this figure now being public, as we can now provide context to explain the draft decision error.
[108] Please refer to narrative content on pages 50-51 and 56 of Our Fibre Assets, which can be found at https://comcom.govt.nz/__data/assets/pdf_file/0022/234364/Chorus-Our-Fibre-Assets-10-February-2021.pdf

No.	Ref	Draft decision	Chorus response
			manage this programme. Initial inspections will be opex in nature, remediation will be either opex or capex depending on the work that is required." This programme is being implemented, consistent with information provided to the Commission through the RFI process.[109] We can provide further information on this programme if required for the Commission to approve the expenditure. As well as addressing public safety risk the condition information generated by this programme is a key source of asset information, helping mitigate future cost and risk. This demonstrates the need for and the value of this expenditure for public safety and asset management purposes. Importantly, the proposed reduction of $7.6m for pits and manholes is incorrectly calculated (the draft decision uses total cost instead of FFLAS component, which is only $2m).
A18	4.68-4.72 4.195.2 4.214-4.218	Reduce corporate support expenditure. Base year replaced with extrapolated trend from 2017-19 because this is a lower number. Any upward trends in labour costs removed based on expectation	**Corporate support opex**. We strongly disagree with this reduction and recommend this expenditure is reinstated. Our context means we have a lean base year, but cost trends in corporate support are not one-way as our build programme scales down. Upward pressures influencing base year and forecast comparison include lower capitalisation and a larger proportion of overhead costs being treated as opex, a larger network to service and FFLAS consuming more shared costs as the network grows.

[109] Please refer to information provided under RFI021 to the Commission.

No.	Ref	Draft decision	Chorus response
		that costs should be declining as UFB build tapers off. Both adjustments influenced by doubts regarding finance managers preparing forecasts. Self-insurance forecast scaled back for cost allocation. $21.8m reduction in opex	Applying a base-step-trend forecasting methodology for corporate opex we anticipated forecast steps for regulatory and asset management workloads[110], increasing use of 'as a service' models and change activity as we reshape for post-build operating environment. We used FY2019 actual spend to establish the base year as it was the most recent full year for which actual data was available at the time of preparing our forecasts. FY2019 is a reasonable and efficient base as it reflects arrangements that have been in place since demerger, and the intervening cost pressures (driving sustained cost control, commercial arrangements incentivising efficiencies) and market scrutiny. We provided evidence of this to the Commission.[111] We made negative step changes to reflect the removal of non-recurring items and positive step changes included adding the opex view of our corporate office leases (which were not included in the base year). The Commission should fully consider the dynamics of our labour cost forecasting (from a FY2019 base) including: • a growing allocation of shared costs to FFLAS services, in particular support opex as FFLAS volumes grow and non-FFLAS services decline • reducing capital expenditure results in a lower capitalisation rates for internal labour and overheads. FY2019 is a period of peak build and connect activity which results in a high proportion of labour and overheads being capitalised relative to the PQP1 period forecast.

[110] Noting that further information post submission of our proposal in December 2020, including the recent draft decisions and volumes/direction of RFIs, indicates that these regulatory and asset management costs were under-estimated (as noted above under the heading "Ambitious, uncertain future cost reduction are baked into PQP1 proposal")
[111] Refer to RFI012 provided to the Commission (tranche 1 cover memo, page 2).

No.	Ref	Draft decision	Chorus response
			• declining capital programme also results in a larger proportion of total overhead costs in corporate support opex, which do not scale up or down linearly with capex cycles. These changes result in material upward cost pressure and must be fully accounted for in any analysis of base year efficiency. We are concerned that the Commission has not appreciated this and, if it fails to do so in the final PQ decision, will reach the wrong conclusions, forcing inefficient cost cutting. This will inhibit Chorus' ability to deliver on our PQP1 proposal, while compliance with excessive proposed Information Disclosure and myriad other compliance requirements will force further compromise. This will be to the detriment of our customers and end users. Our finance managers are more, not less, cost focussed than regulatory forecasters. The finance manager role includes closing the gap between bottom-up forecasts and the top-down pressure required by financial constraints discussed in the expenditure section of this submission (under heading 'Our proposal is on the lean side of efficient'). They are effective because they combine deep business knowledge with an understanding and alignment with top-down goals. Self-insurance proposal is already for an allocated allowance, so no further allocation adjustment is required or justified.[112] We note, again, that cost allocation is supposed to be resolved through the IAV workstream.

[112] We note that the Commission appears to have taken unallocated nominal figures from our input models in some cases. Any adjustments should use allocated real figures, - i.e. after input models have flowed through aggregation models. Please refer to figure 1 (and accompanying explanation) in the Modelling and Cost Allocation Report, as well as explanations in the aggregation models themselves, as provided under RFI013. Modelling and Cost Allocation report available at https://comcom.govt.nz/__data/assets/pdf_file/0019/234361/Chorus-Modelling-and-cost-allocation-report-16-December-2020.pdf

No.	Ref	Draft decision	Chorus response
			It is unclear how the $21.8m reduction in opex has been calculated. Table 4.1 of the draft decision also refers to "two regulatory overlays" being adjusted for; it is unclear which adjustments the Commission is referring to.
A19	4.159 4.195.3 4.221-4.223	Apply efficiency adjustment to overall opex to reflect gains from IT capital investment. Considerable likelihood Chorus has opportunity to find additional efficiencies within its operating costs. Many unspecified IT capex projects will likely yield efficiency gains over PQP1. Chorus has not included expected benefits from such projects in its proposal.	**Opex efficiency adjustment - IT capex optimisation.** As per item A12, we strongly disagree with this efficiency adjustment and recommend this expenditure is reinstated. In particular: • the draft PQ decision uses the incorrect IT capex figure. The relevant figure is a subset of our proposed $12.7m investment in business IT customer experience and optimisation projects. The Commission has used a figure of $67.3m, which is more than five-times too high[113] • regardless of which figure is used, it is double counting because we have already built more than $20m of relevant savings into our opex forecast – this is more than enough to justify $12.7m of IT capex. Only a subset of any business's IT capex is ever directed at enabling opex cost reductions. Other drivers include: • lifecycle – investment to address risk or functionality issues such as vendor support, cybersecurity, or interoperability • wider benefits – investment to support asset, network, customer, or business management benefits. These can be outside the scope of our business (e.g. customer benefits) or may help manage risk or longer-term capex or opex cost pressures.

[113] We note that following the calculation in the Commission's footnote to paragraph 4.223 does not generate a total of $67.3m.

No.	Ref	Draft decision	Chorus response
		Reduction of $21.3m to account for benefits expected in planned IT capex investment.	These are valid (and necessary) drivers of IT investment that will never show up as reductions in opex baselines. We note that we agree conceptually with the approach of matching IT capex optimisation to corresponding opex forecast adjustments. This is a standard part of our planning for these types of investment and is already embedded in our proposal. The proposed cuts double-up on adjustments we have already made and use the incorrect (much too high) input. We have already provided the Commission with evidence to support our position.[114]
A20	n/a	The draft decision excludes leases expenditure completely – they are not shown or discussed in opex or capex.	**Leases – opex.** Our regulatory templates present a cashflow view of capitalised leases alongside opex.[115] This presentation supports a clearer understanding of scale and trends for evaluation purposes. Our proposal therefore included leases within the opex proposal (not the capex proposal). For MAR-setting purposes capitalised leases should be modelled as capex, consistent with GAAP (NZ IFRS 16). The draft decision does not provide either view of leases. The cashflow view, as included in our expenditure proposal, is $38.8m and the equivalent capex view is $26m. The difference arises because NZ IFRS 16 capitalises leases on formation or step change.

[114] Please refer to 'Chorus submission – consultation on RP1 expenditure proposal' (published by the Commission on 17 March 2021, https://comcom.govt.nz/__data/assets/pdf_file/0028/248068/Chorus-ChorusE28099-Expenditure-Proposal-for-PQP1-12-March-2021.pdf), pages 13-16; RFI014 on linkages between capex/opex and efficiency gains; RFI021, which included further models and documentation on IT expenditure and efficiency gains. Please also refer to row 19 of the main forecast tab in model O002 and rows 426-429 in the main forecasting tab of model C021, both provided under RFI012. Evidence provided under these models and RFIs shows cost-out from IT investments within our PQP1 forecast modelling of over $20m.

[115] In line with regulatory template specifications agreed with the Commission in November 2020.

No.	Ref	Draft decision	Chorus response
			The Commission has assumed that the capex view of leases was included in our capex proposal, which is incorrect. And by removing lease costs from opex there is now no lease expenditure in our proposal for assessment. The final decision should clearly record approval of the opex view of leases (this will be used for tracking, reporting and future proposals) *and* the capex view (this will be used for setting the MAR) and the allowance should be adjusted to include leases expenditure (and $26m capex in the MAR).
	Other		
A21	4.60-4.62 4.84–4.86 4.92-4.95	Chorus must provide a "cost estimation / asset data roadmap" by 30 June 2022. Standardisation of cost estimation will improve future proposals and efficiency benefits within Chorus' business. Chorus will be required to develop and report on an asset management development roadmap and report	**Asset management development**. We agree in principle with providing an updated asset management roadmap. Our work with AMCL included developing an asset management roadmap designed to build capability in areas that are becoming more important as our business transitions from build to operate. We agree that developing and reporting against a regulatory-facing asset management roadmap could be a constructive tool for building confidence, agreeing priorities and managing expectations. A good roadmap is realistic about timeframes and resourcing and has business buy-in that it is targeting important issues. It will be timely to refresh our roadmap when we have visibility of approved allowances and the extent to which these permit investments in this area. We expect the primary benefit of improved asset management capability will be better management of long-term asset lifecycle costs and performance, which is likely to involve

No.	Ref	Draft decision	Chorus response
		on roadmap milestones, standardisation of cost estimation and forecasting methodologies, and improvements in data management. Expectation that improvements in asset management, forecasting improvements, and data management will lead to efficiency adjustments.	increasing expenditure in the near to mid-term on asset knowledge, planning, and proactive maintenance.
A22	4.87–4.91 4.93.4 4.94-4.95	Effective consultation of Chorus' proposal will be a high priority to ensure stakeholder requirements are an input to the development of the proposal and that greater consideration of expenditure and quality are made	**Engagement Plan.** As per our 2020 Engagement Plan, we agree that developing and adapting our engagement activities will be an important foundation for our next regulatory proposal. We note that proposal-centred engagement is only one aspect of this – e.g. extending the planning horizon for product engagement or developing new policy-focussed engagement could also improve the underpinnings for future proposals. We plan to engage on our modes of engagement before 30 June 2022 and will use this to inform an updated plan. We note that our ambition in this area will need to fit with PQP1 decisions on support opex levels.

No.	Ref	Draft decision	Chorus response
		available to stakeholders. Chorus must provide an updated engagement plan by 30 June 2022.	

Appendix A2: Incentive payments expenditure

1. This appendix adds to material in the body of our submission on our proposal to invest:

   1.1 $10.2 million[116] on uptake incentives, to be recovered as connection capex

   1.2 $20 million on intact uptake incentives[117], to be recovered as base capex

   1.3 $15 million[118] on upgrade incentives, to be recovered as base capex.

2. It provides additional information to support our position that:

   2.1 uptake and upgrade incentives are consistent with the expenditure objective and GTIP, and have positive competition effects in relevant markets

   2.2 the fact we are proposing continuation of existing programmes weighs strongly in favour of approval

   2.3 proposed investment meets the Commission's commercial rationale test, even though a less stringent test would be appropriate.

Incentive payments are a key part of the UFB success story

3. We have been operating a programme of incentive initiatives for many years. Our incentive initiatives:

   3.1 are part of our wider 'active wholesaler' strategy necessitated by the unique market structure created through the Crown's UFB initiative and Crown contractual commitments and the existing fibre regulatory framework (business line restrictions, non-discrimination)

   3.2 complement our own marketing, market research and branding activities that raise awareness of the availability and benefits of fibre

   3.3 are designed to leverage RSP product design and marketing capabilities, while supporting active participation by a wide range of RSPs

   3.4 support our own product innovation efforts by combating inertia for new offerings

   3.5 directly address (in the case of uptake incentives) the hurdle to end user uptake that installation and switching processes can present

[116] The Commission has adjusted our proposed expenditure for connection capex incentives from 10.2m to $9.2m based on their demand forecast adjustments which we do not agree with.
[117] When a consumer requests a connection at a premise where a fibre lead-in has already been installed, they are called intact connections. We consider incentives for intact connections in the same way as new connections to the network, as the consumer behaviour is much the same. However, intact connections do not meet the definitions for connection capex and therefore the incentives associated with them are currently recognised in base capex. We consider this is an area for consideration of an IM amendment to the definition of connection capex so intact connections are treated as connection capex.
[118] The Commission refers to base capex incentives in their draft decision as being $34.7m. Our RP1 proposal includes base capex incentives expenditure of $35m.

3.6 typically involve payments to RSP that are linked to connection numbers (and other criteria) but will not necessarily flow through to end user retail pricing

3.7 have helped foster healthy retail and network competition, with challenger RSPs playing a key role promoting fibre services.

4. We have continuously evolved the design of our incentive initiatives since their inception to anticipate and respond to market dynamics and to test and learn from new ideas. This investment has played a key role in delivering:

- UFB uptake that is well ahead of predictions and has remained strong
- a vibrant retail market, with successful entry and growth from challenger brands
- significant uptake of gigabit (and better) connections
- efficient (and improving) average cost per connection.

5. Because they have been so effective, we have continued to allocate capital to incentive initiatives as a high priority alongside UFB rollout and despite tight financial conditions. Our pre-BBM regulation context means we would not have prioritised this investment if it were not cost-effective.

6. These considerations provide a strong *prima facie* argument for approving ongoing investment. Our proposal is for continuation of a successful formula that has delivered clear benefits for modest outlay. Our proposal involves a reduction in overall size of the programme, consistent with completion of UFB build and maturing of network uptake.

7. The established nature of our investment programme means that the merits and scale of investment are not especially uncertain. Consistent with good practice, our investment will be responsive to market conditions and retailer input, meaning that the mix and design of initiatives is unpredictable more than six months ahead, but the overall scale and merits are not uncertain.

8. In contrast, we are certain that disruption to our investment (due to deferred or declined approval) would cause harm through:

- loss of internal momentum as our resources are stood down or redeployed
- loss of marketplace momentum as promotions are paused or scaled back
- reducing the ability of challenger RSPs to compete with vertically integrated MNOs - noting continuation of incentive programs is likely factored into RSP business plans
- slowdowns in installation and upgrade uptake, meaning foregone consumer benefits from superior connectivity, and a higher MAR and prices over time.

Investment supports long-term benefit of end users

9. The Commission proposes that an appropriate regulatory test for assessing incentives may be to evaluate whether:

10. "…expected incremental revenues exclusively from the incremental end-users [or upgraded connections] should outweigh the incremental costs"

11. We do not agree that this is the best formulation for a regulatory test but can show our expenditure does meet this test without relying on wider benefits.

12. A more complete assessment would also consider:

    12.1 non-monetised end user benefits – these include benefits due to the superior performance and attractive pricing of fibre services relative to alternatives. Incentives grow these benefits by helping overcome consumer inertia, meaning more consumers begin enjoying these benefits earlier than would otherwise occur. Price restrictions mean we monetise only a portion of this increase in consumer surplus

    12.2 retail competition benefits – including benefits that flow from challenger RSPs exerting pressure on incumbent MNOs to innovate, improve efficiency, sharpen prices, and improve service quality

    12.3 network competition benefits – incentive programmes allow us to compete effectively with competitor networks operated by unregulated and vertically integrated suppliers. Competition between networks in turn drives a healthy pressure to deliver value for end users of telecommunications services

    12.4 non-quantified cost reductions – including efficiency gains from stimulating more efficient and consistent installation volumes, and improving cost per connection

    12.5 lower non-premium prices – greater uptake of premium (high speed) products by willing end users reduces the residual MAR per connection across other users, which also flows through to lower prices over time which itself may support further uptake longer-term.

13. The timing of the MAR-related benefits will depend on our overall revenue relative to the PQP1 MAR, but they will flow through to end users (with adjustments for the time value of any delay) regardless.

14. These are all valid benefits in the context of our regulatory arrangements. As such less restrictive and more holistic assessment of end user benefits is warranted than a purely commercial rationale assessment test (as proposed by the Commission) would allow.

Our incentive investment is strongly net beneficial

15. Without relying on the wider benefits discussed above, our incentive investment has a positive net benefit, as shown below for our base (2021) year, we have calculated the incremental net benefit from uptake and upgrade incentive investment which demonstrates that we meet the Commission's commercial rationale test.

16. The tables summarise:

- assessed net benefit per eligible (for an incentive payment) connection
- costs included in our cost-benefit assessment
- benefits included in our cost-benefit assessment.[119]

Type:	Uptake incentive
Net benefit:	[CHORUS CI] per connection
Included costs:	• incentive payment • installation[120]
Included benefits:	• revenue uplift from new connection

Type:	Upgrade incentive
Net benefit:	[CHORUS CI] per connection
Included costs:	• incentive payment
Included benefits:	• revenue uplift from plan upgrade

17. Key assumptions and points to note about this modelling are:

17.1 uptake benefits for copper to fibre migration count revenue difference (between copper and fibre products) only and don't count avoided copper costs as a benefit. This is more stringent than required to satisfy the 'commercial rationale' test

17.2 benefits only counted for uplift in connections relative to no-incentive counterfactual

17.3 revenue uplift is assumed to last four years on average. In practice, creation of a new intact installation will tend to have lifetime benefits as future end users are more likely to connect. Similarly, a new consumer at an intact premise is more likely to use fibre again in future premises

17.4 assessment is at a programme level, not an initiative, RSP or customer level. This is appropriate for evaluating overall capex allocation over the PQP1 forecast horizon. Ongoing governance processes then prioritise use of the allocated capital at a more granular level

17.5 the positive results shown above are robust to a range of scenarios.

[119] This information is from modelling provided to the Commission in RFI005.
[120] This is relevant to off-net uptake. There are no material installation costs for uptake by end users at premises with intact connections.

18. A key driver of the positive outcome across scenarios is that our network architecture, agreed with the Crown as part of the UFB arrangements, is designed for high uptake. This makes the most of the inherent capacity of fibre optics and means the incremental cost of a new connection is low.

19. Our forecast takes strongly net beneficial outcomes demonstrated for the base year, and rolls expenditure forward with a declining trend consistent with completion of UFB build and maturing of network uptake.

20. The strongly net beneficial results for the base year means there is scope for the programme to remain net beneficial, even if the cost per successful outcome increases over the forecast horizon – e.g. due to factors such as competitor offers, or transition to late adopters.

21. We have previously provided the Commission with the modelling underpinning the net benefit figures above.[121] CutlerMerz also reviewed this expenditure and concluded that the proposed expenditure "…reflects the efficient costs that a prudent fibre network operator would incur to deliver regulated FFLAS at an appropriate quality, …having regard to GTIP".[122]

22. Our modelling and the supporting contextual information are more than sufficient for the Commission to approve our proposed incentive payment capex.

Established governance

23. It is worth emphasising that we have well-established governance processes in place for our incentive initiatives. This is relevant to IM assessment factors and includes:

    23.1 testing for legal and regulatory compliance – this includes economic and legal testing against general competition law and our deeds

    23.2 customer engagement – designing incentive initiatives in consultation with RSPs is good practice and improves their adoption and effectiveness

    23.3 financial governance – oversight of the resources allocated to initiatives and their performance against expectations

    23.4 strategic alignment – governance ensures incentive initiatives are not designed and operated in isolation but tie in with wider business objectives and priorities

    23.5 audit of accounting treatment – our treatment of incentive payments as NZ IFRS 15 capex is robust and well established.

[121] As noted above, this information is from modelling provided to the Commission in RFI005.
[122] Chorus report from the independent Verifier, December 2020, CutlerMerz, at 7.2.4, page 47, available at https://comcom.govt.nz/__data/assets/pdf_file/0017/234341/Chorus-Report-from-the-Independent-Verifier-10-February-2021.pdf

Appendix B: Revenue path and MAR technical items

No.	Reference	Draft decision	Chorus response
Revenue path, draft price compliance determination and section 193 notice			
B1	2.63-2.64, A90	In-period smoothing and crown financing building block.	Chorus agrees with the draft decisions on in-period smoothing and a negative crown financing building block.
B2	A93, Clause A4(b) of s193 notice	Paragraph A93 says that the statement of compliance with the revenue path and supporting information is "subject to audit and certification requirements". Clause A4(b) of the determination only requires certification.	Chorus considers that a price compliance statement should be supported by director certification but not by audit. Audit is not necessary or appropriate given that *ex-ante* price compliance is based on forecast information. The equivalent determination for EDBs requires certification and audit for quality compliance but **only** certification for price compliance, which we believe is the correct outcome.
B3	A95, Determination Schedule 3, clause (4)	Calculation of forecast total FFLAS revenue. Forecast total FFLAS revenue for a regulatory year is defined as: $\sum_i (P_i - D_i) \times FQ_i$	The formula in the draft determination is not workable. Chorus proposes forecast total FFLAS revenue for a regulatory year should be defined as: $\sum_i (FP_i - FD_i) \times FQ_i + FR_i$ This will make compliance more workable for several reasons: 1. While the majority of Chorus' forecast total FFLAS revenue is calculated on a PxQ basis, a small number are not. This includes products such as Colocation and handover links. In this case FR_i is defined as a demonstrably reasonable forecast FFLAS revenue (net of discounts) for revenue not forecast using PxQ.

No.	Reference	Draft decision	Chorus response
			2. (FP_i – FD_i) replaces (P_i – D_i) and is defined as forecast prices net of forecast discounts. If the price compliance report is only required within 30 days of the beginning of the regulatory year then, as we have proposed in item B4, forecast prices will be required for any further changes to prices expected within the year. Where actual prices are known they would be used for the period they are relevant. We also interpret "any discount to the price" (D_i) to mean discounts to listed prices, rather than customer incentive payments. This is consistent with application of discounts in the EDB IMs and should be defined as such to avoid confusion. For clarity, prices exclude customer incentive payments. The same statutory definition of "price" in the Act applies in the case of both PQ regulation (and s 201). Section 164 defines price for the purpose of Part 6 and includes "related terms of payment", this definition must be read in conjunction with the s 5 definition which makes it clear that "price" means consideration provided by RSPs for the provision of FFLAS. This excludes incentive payments from "price", as incentives are not part of the consideration provided by RSPs for FFLAS, but are a separate payment to RSPs to secure certain behaviours or activities (such as fibre focussed marketing), and treated as capex expenditure in accordance with GAAP.
B4	A99, Determination clause 9.1	Paragraph A99 requires price compliance report within 30 working days of start of 2022 only, and then	The Commission's draft decision that a price compliance report is required at the start of the year and 30 days before any price change is unworkable. This is because it would likely require numerous compliance

No.	Reference	Draft decision	Chorus response
		30 working days before any price change. Draft determination (clause 9.1) requires a price compliance report 30 working days after start of each regulatory year and 30 working days before any price change.	reports each regulatory year – both when prices change across different products and potentially when new products are introduced or removed. Chorus should only be required to produce a price compliance report once per year. Multiple price compliance reports, with director certification, is an unnecessary burden and there is little risk of harm from Chorus' price setting. The risk of over-recovery is effectively mitigated already by the revenue wash-up and the anchor product protects customers from price shocks. Chorus has considered when the optimal time in the year would be for producing the price compliance report. We recommend that this should be required by 30 June for each year (i.e. half-way through the regulatory/pricing year to which it relates). This would align with Chorus' price setting and Board reporting cycle and ensure that the price compliance report reflects the prices that will be determined for the major access services across the calendar year (these prices are currently set on 1 October each year). We see no harm in producing a price compliance report part-way through a regulatory year; the Commission and stakeholders will still get annual assurance that forecast revenues for the full year are within the revenue cap. The benefit of producing the report in June rather than at the start of the year is that the forecast will be much more accurate, as it will reflect the 1 October price change.

No.	Reference	Draft decision	Chorus response
			Producing a price compliance report at the start of the year only is a second-best option as we would not have consulted with RSPs over the 1 October price change for the majority of our products. Further, to be workable, the term 'change in prices' should be defined to exclude the introduction of a new product and changes in customer incentives. Finally, if the recommendation for a June report is not accepted in general, this timeframe will still be needed as a transitional measure for 2022. The Commission's final PQ decision will be made in December 2021. It will not be possible to produce the first price compliance report within 30 working days of 1 January 2022, because this is a new requirement and we will not know what the revenue allowance for 2022 is until mid-December.
B5	A104	Wash-up reporting.	The draft determination and s193 Notice do not require Chorus to report on actual values for the wash-up amounts. We understand the Commission intends to consult separately on a section 221 Notice for wash-up information. Chorus considers that the PQ determination and the ex-post price compliance statement should include reporting of wash-up amounts. Wash-up information should be reported annually so the values are clear and there is no need for multiple reporting requirements across a determination and statutory notices – this can all be consolidated for ease of reference.

No.	Reference	Draft decision	Chorus response
B6	Determination and s 193 Notice	The compliance requirements for price and quality are split between the determination and the s193 notice.	Chorus would prefer all of the compliance material to be in the same document as this will be easier to work with (for example the draft s 193 Notice has a definitions section that refers back to the draft PQ determination, which would be unnecessary if they were all in one document). For energy companies regulated under Part 4, there is a single determination only and this is a better approach.
B7	Determination, schedule 1, clause (2)	Forecast building blocks roll-forward formula is specified as: $FBBR_{t-1} \times (1 + \Delta CPI_{t-1} + \Delta Q_t)$	The formula should instead be specified as: $FBBR_{t-1}*(1+\Delta CPI_t)(1+\Delta Q_t)$ It is necessary to multiply FBBR by both 1+ΔCPI and 1+ΔQ, rather than by (1+ΔCPI+ΔQ) to ensure the roll-forward is consistent with the way the starting revenue number is calculated. We assume the Commission recognises this (and the formula in the determination is a typo) because the simultaneous formula in paragraph A69 of the draft decision paper and the formula in footnote 110 of the draft decision paper both specify the formula correctly.
B8	Determination, schedule 1, clause (2)	Forecast building blocks roll-forward formula is specified as: $FBBR_{t-1} \times (1 + \Delta CPI_{t-1} + \Delta Q_t)$	In addition to the change recommended in B7, we suggest this formula is changed to roll forward the previous year's FBBR by forecast CPI for the current regulatory year ($1+\Delta CPI_t$) rather than ($1+\Delta CPI_{t-1}$). If ($1+\Delta CPI_{t-1}$) is used, Chorus will be guaranteed to under-recover the PV of its forecast MAR during PQP1: • The PV of the forecast unsmoothed building blocks revenue is spread over years 2022 to 2024 using the forecast CPI for those years. However, in the draft PQ determination, the roll-forward of the revenue cap uses actual inflation for the previous year. The

No.	Reference	Draft decision	Chorus response
			roll-forward for 2023 uses the actual CPI calculated for 2022 and the roll-forward for 2024 uses the actual CPI calculated for 2023. • In other words, the MAR for 2022 is fixed in nominal terms and so must incorporate a forecast of inflation, while subsequent years are being adjusted for inflation but with a lag – this creates a mismatch. • A consequence of the method in the draft determination is that there will be a double-up of 2022 inflation (forecast CPI will be used to establish 2022 prices, and actual CPI will be used to establish 2023 prices). • This is inconsistent with real FCM because in most circumstances we would not expect the use of CPI from the previous regulatory year to result in the same outcome as using CPI from the current year. Put another way, prior to PQP1 we would not expect that replacing actual CPI_t (as used to smooth building blocks revenue) with forecast CPI_{t-1} would provide the same PV of allowable revenue for a given regulatory period in the simultaneous equation the Commission sets out in A69. • Because CPI is forecast to increase, even if actual CPI is exactly equal to forecast CPI the forecast BBR for 2023 and 2024 will be less than the amounts calculated in the MAR model. • Our estimate, based on the Commission's MAR model, is that the total under-recovery at forecast CPI is approximately $4m.

No.	Reference	Draft decision	Chorus response
			To resolve this issue, Chorus proposes that prices are set based on forecasts of CPI for year t, with a subsequent wash-up for the difference between forecast and actual CPI for this purpose (as recommended in the wash-up section and Chorus' recent submission on August 2021 IM amendments).
B9	Determination, Schedule 1, clause (3)	ΔCPI is calculated using this formula: $\Delta CPI_{t-1} = \frac{CPI_{Mar,t-1} + CPI_{Jun,t-1} + CPI_{Sep,t-1} + CPI_{Dec,t-1}}{CPI_{Mar,t-2} + CPI_{Jun,t-2} + CPI_{Sep,t-2} + CPI_{Dec,t-2}}$	As discussed in B8, the CPI formula must use forecast of CPI for year t rather than lagged CPI. Updating the Commission's method in schedule 1, the resulting CPI formula is: $$\Delta CPI_t = \frac{CPI_{Mar,t} + CPI_{Jun,t} + CPI_{Sep,t} + CPI_{Dec,t}}{CPI_{Mar,t-1} + CPI_{Jun,t-1} + CPI_{Sep,t-1} + CPI_{Dec,t-1}}$$ Where: • $CPI_{q,t-n}$ is the CPI for the quarter ending in q in the 12-month period n years prior to regulatory year t. • For each $CPI_{q,t-n}$ actual CPI is used where known at the date FBBR is calculated otherwise forecast $CPI_{q,t-n}$ is used based on the last available forecast for headline CPI as included in the Monetary Policy Statement last issued by the Reserve Bank of New Zealand prior to the date the FBBR is prepared by Chorus. We note that if the recommendation in B8 is not adopted, changes may still be needed to the formula in Schedule 1 because it requires the use of CPI information that may not be available at the time of price compliance reporting (i.e. December t-1 data will not be available at the start of the year and September t-1 data will not be available in time for

No.	Reference	Draft decision	Chorus response
			the three-month notice to RSPs of any price change, if prices were to change on 1 January). If the Commission does not accept that recommendation in B8 above, the most recent quarter used in this formula will need to be two quarters prior to the price compliance report (which would mean the current drafting is consistent with our recommendation in item B4).
Draft MAR modelling			
B10	3.32	Disposals.	We agree that disposals in the MAR model should be forecast to be zero.
B11	MAR model, BBAR tab, row 50	Other regulated income.	In the formulae in row 50, Other regulated income is incorrectly added to BBAR (it is correctly deducted from BBAR in row 48). Other regulated income is zero in the model, so this has no impact.

Appendix C: Wash-up technical items

No.	Reference	Draft decision	Chorus response
C1	A106	A single wash-up across all aspects that are being washed-up, composed of a wash-up accrual, a wash-up balance, and an eventual drawdown 'wash-up amount' in future regulatory periods.	Agree with a single wash-up amount being calculated and applied in future price paths. A single wash-up adjustment at the start of each regulatory period is sensible – that approach avoids potential for revenue volatility that can result from a rolling annual wash-up process. However, each individual wash-up item should be separately reported on and tracked so it is clear how the wash-up balance is calculated.
C2	A126	Chorus would have to calculate the total FFLAS revenue component of the wash-up accrual on the basis of prices (net of discounts) and actual quantities.	As discussed in B3 in **Appendix B**, not all of Chorus' FFLAS products are priced on a P*Q basis. A better approach would be to calculate 'total FFLAS revenue' determined in accordance with the IMs and/or GAAP.
C3	A127	Calculation of actual total FFLAS revenue: $ATFR = \Sigma(P_i - D_i) \times AQ_i$	Consistent with our response in item B3 in **Appendix B**, and to make sure all necessary revenue is included in the wash-up calculation, Chorus recommends the actual total FFLAS revenue (ATFR) formula: $$\sum_i (AP_i - AD_i) \times AQ_i + AR_i$$ Where: • AP_i is the actual price for each tariff

No.	Reference	Draft decision	Chorus response
			• AD_i is the actual discount applied to the actual price for each tariff, this excludes customer incentive payments • AQ_i is the actual quantity for each tariff • AR_i is the actual revenue for any revenue not forecast on a PxQ basis, including customer incentives, less any relevant discounts applied to those revenues • i is each tariff; this will also be updated to include new products Where actual total FFLAS revenue is in accordance with the IMs and GAAP. This ensures that any variations between forecast total FFLAS revenue and actual total FFLAS revenue are accounted for when calculating the wash-up. This includes changes to price, discounts, tariff structure and other revenues.
C4	A130	The actual revenue allowance should be calculated based on a rerunning of the building blocks model, with only the washed-up inputs to it updated, and by substituting actual for forecast pass-through costs.	We agree in principle with this proposal, but more detail should be specified – we expect this will be in the s 221 Notice (or a combined determination that includes wash-up information as recommended in B5). We note the building blocks must be re-run for each year in a regulatory period so the time value of money can be applied appropriately.
C5	3.74	Use the post-tax WACC as the time-value of money for wash-ups to preserve NPV neutrality.	Chorus agrees the use of post-tax WACC is appropriate. It is not clear if this is the post-tax WACC for the regulatory period to which the wash-

No.	Reference	Draft decision	Chorus response
			ups relate or the post-tax WACC for the regulatory period in which the wash-up is applied. This should be specified (e.g. in the s 221 Notice).

Appendix D: Chorus categorisation of FFLAS products

Alternative to Attachment I of the PQ Draft Decision

The table below lists our current core products which fall within the FFLAS categories specified by the Commission. We note that:

- Within our broad product categories there may be sub-services. We do not consider it useful to list every product variant or plan within each product category because that is not relevant to FFLAS categorisation. For example, Hyperfibre includes 2, 4 and 8 Gig consumer, business and education plans.
- Within the Commission's FFLAS categories, we supply products that do not fall within the legislative definition of FFLAS. For example, CRT (transport service) and Edgecentre (co-location service).
- Not all of the products listed as FFLAS are 100% FFLAS. For example, there are both FFLAS and non-FFLAS elements to ExchangeSpace.

Commission's categories of FFLAS (per 2.108 of IMs reasons paper)	**Chorus FFLAS products within the category**
Voice services: services to enable the delivery of telephony and low speed data services over a fibre network (including but not limited to anchor services, baseband, ATA voice).	NGA Voice (includes ATA Voice)
Bitstream PON Services: single or multi-class point-to-multipoint fibre access services over a fibre network (including but not limited to anchor services, bitstream services, bitstream 2,3,3A, bitstream accelerate services, 10GPON, NGPON and multicast).	Bitstream 2 • Evolve 2 Services <100Mbps* • Evolve 2 Services 100Mbps* • Evolve 2 Services 200Mbps* • Evolve 2 Services 1Gbps* • NGA Small Business Bitstream 3 and 3a • NGA Education • NGA Business Hyperfibre Secondary NGA Connections[123]
Unbundled PON Services: Point-to-multipoint layer 1 fibre access services (including but not	PONFAS

[123] Secondary NGA Connections are a combination of both Bitstream2 and Bitstream3 and 3A. We cannot specify in more detail as this would require disclosure of information that is commercially sensitive to Chorus and RSPs.

Commission's categories of FFLAS (per 2.108 of IMs reasons paper)	Chorus FFLAS products within the category
limited to PON fibre access services (PONFAS) and unbundled fibre service.	
Point to Point Services: single, multi-class or layer 1 point-to-point fibre access services (including but not limited to bitstream 4, enhanced bitstream 4, HSNS, BFAS and DFAS).	DFAS BFAS NGA Business Premium (Bitstream 4) HSNS Lite (Fibre) and HSNS Premium Mobile Access
Transport Services: Layer 1 or managed throughput fibre services provided over the fibre network to transport voice and data traffic between central offices, including central offices that are also POIs (including but not limited to ICABS, TES and inter-CO fibre services, excluding national/inter-candidate area backhaul services such as Chorus Regional Transport).	ICABS Commercial backhaul HSNS TES
Co-location and interconnection services: network equipment accommodation and management services including network interconnection services (including but not limited to Central Office and POI co-location services, handover connections, Ethernet handover connections, tie-cables and jumpering)	Exchangespace Handovers Ancillary services to the above (including tie cabling, jumpering etc)
Connection Services: services to install and enable FFLAS between communal fibre network infrastructure and an end-user's premises, building or other access point (including but not limited to pre-wiring, cable and duct fit-out).	Installation Charges Connection Charges RGW ONT Miscellaneous/Ancillary charges

*We note these four speed groupings currently reflect over 90% of our connections but that the groupings and the Evolve name may change over time to reflect market conditions.