Submission on initial PQ RAB and additional IM amendments draft decisions

16 September 2021

Public version

CHORUS

Contents

Executive Summary

We support most aspects of the PQ RAB draft decision

1. We agree with many of the conclusions reached by the Commerce Commission in its draft decision on Chorus' initial regulatory asset base (**PQ RAB**). However, some improvements are needed to ensure the final PQ RAB decision best promotes the long-term interest of end-users. Further, Chorus' $6b RAB estimate is credible and should be the starting point for the process to determine the initial PQ RAB.

2. We welcome this recognition by the Commission of the importance of the initial RAB valuation in relation to investment and the wider economy:

> *Determining the initial RAB value for core fibre assets and the FLA is an important decision in implementing the new Part 6 regime. This is because it will be one of the main drivers of both the prices faced by end-users of FFLAS and the value of Chorus' regulated fibre business. There may also be wider economic ramifications in terms of signals to investors. This is particularly so in the current context, where the change in regime affects a privately-owned company, and our decisions may affect investor expectations about future regulatory decisions. This matters for future investment.* [1]

3. These factors should be given significant weight when determining Chorus' initial PQ RAB. The development of the IMs and subsequent decisions on the PQ RAB have required the Commission to balance the risk of either underestimating or overestimating the value of the PQ RAB. The Commission's approach to date has erred on the side of under-estimation – in particular with regard to its estimate of our weighted average cost of capital (**WACC**) for the financial loss calculation. In balancing risks of under or over-estimation the Commission should be aware that under-estimation means Chorus will not be afforded the opportunity to achieve real financial capital maintenance. This means the Commission's decisions will not achieve the purpose of Part 6 of the Act.

4. We support the Commission's draft decision to use a vanilla WACC rather than a post-tax WACC to calculate the financial loss asset (**FLA**). It is clear that Chorus has incurred substantial tax losses in the provision of FFLAS and these need to be correctly accounted for in the FLA valuation. The proposed use of the vanilla WACC will ensure the financial loss asset is correctly calculated in relation to these tax losses.

5. The Commission has correctly characterised its task in delivering this draft decision, where it starts with Chorus' proposed asset valuation estimate and undertakes three key steps when reviewing that valuation estimate:

   a. A factual assessment of the PQ RAB and cost allocation calculations;

   b. A compliance assessment against the Telecommunications Act (**the Act**) and input methodologies (**IMs**) (we agree the majority of decisions fall in this category); and

[1] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at paragraph 2.104.

c. The exercise of judgement where this is necessary and provided for in the IMs.

6. We further support the following elements of the draft decision:

   a. The Commission's confirmation that Chorus has complied with the IMs in the preparation of our proposed asset valuation.

   b. The Commission's approval of the majority of our proposed cost allocators, as these are objectively justifiable and demonstrably reasonable, and the agreement in principle for Chorus' 2-step allocation approach.

   c. The draft decisions in relation to scope of FFLAS (subject to some minor edits discussed below).

The $6b RAB estimate should be the starting point

7. We disagree with the concerns raised in the draft decision regarding the $6b initial RAB, namely that Chorus has not demonstrated the $6b estimate is objectively justifiable or demonstrably reasonable. The supporting information we have previously provided outlined how different IM-compliant choices on technical matters are available and better reflect the outcomes that in our view were expected under the Act.

8. We continue to believe that a $6b RAB estimate is available to the Commission and it should be considered as a credible and preferred method.

9. Chorus' initial RAB valuation of $5.5b, as provided on 26 March 2021, was developed as a conservative lower-bound estimate. It was driven by our understanding that the process for setting the initial RAB was primarily a compliance exercise and was intended to help the Commission complete its scrutiny of the asset valuation within a tight timeframe. It therefore included interpretations of the IMs that erred on the conservative end of the spectrum, in particular on the allocation of corporate overhead opex.

10. However, our position is that a better application of s 177 requires that upfront costs incurred as a direct result of the UFB initiative are included in the RAB and that the application of the IMs should be considered in this context. This approach produces a RAB estimate closer to $6b and we remain of the view that this approach can be considered to comply with the IMs.

Some improvements are needed regarding cost allocation

11. There are some areas where the draft decision misunderstands or misapplies Chorus information to reach erroneous conclusions about the cost allocators that should be applied. The most significant and potentially damaging of these is the decision to change the allocator for Chief Technology Officer (**CTO**) common costs, which also severely cuts the opex allowance for shared systems expenditure with a material consequential impact on our ability to deliver services to end-users.

12. Areas where the draft decision should be improved to deliver better long-term outcomes for end-users are summarised in Table 1 below.

Table 1: Improvements needed to draft decision

Draft decision	Chorus' response
CTO common costs: changed allocation from 100% totex to 61% totex and 39% recipient business allocator	Totex is the most demonstrably reasonable allocator for these costs – it reflects the magnitude and timing of the effort that drives the costs. In this submission we provide evidence to show this across the items within the CTO common cost category. The Commission's chosen revised allocators are not the most appropriate cost drivers for CTO common costs as they do not clearly match the cost items. If the Commission continues to disagree with our proposal to use totex then we have provided alternatives (in Appendix A) which would improve on the Commission's revised allocators.
Post-2011 ducts: limited the direct attribution to FFLAS to 95%. Remaining 5% allocated by fibre revenue allocator	The approach in the draft decision appears to apply optimisation, which is inconsistent with the IMs and s 177 of the Act. Optimisation is more consistent with Total Service Long Run Incremental Cost (**TSLRIC**) methodology, rather than an accounting-based allocation approach (**ABAA**) of Chorus' actual settled costs. The draft decision has been mis-directed by Network Strategies' report, which does not appear to understand the legislation. The proposal to limit direct attribution to 95% appears to rely on the efficiencies that would apply to a hypothetical network operator. Instead the focus should be on the actual sharing of ducts between FFLAS and non-FFLAS, as required by ABAA and s 177. We have evidence from our network records that demonstrates 95% direct attribution is clearly too low: only 3.7% of post-2011 ducts are capable of sharing, however our network design rules limit this to less than 1%.
Pre-2011 ducts: capped attribution to 30% in any given time period and geography	The proposed 30% cap on pre-2011 ducts limits Chorus' ability to achieve real financial capital maintenance (**FCM**). These ducts enter the initial RAB at depreciated historic cost, which is a *fraction of their true value.* The use of these ducts also avoids further costs in building the fibre network. The draft decision is based on a misinterpretation and misapplication of data supplied during the UCLL and UBA Final Pricing Principle (**FPP**) in 2015, which was provided under a different context, reflecting the network as it was

Draft decision	Chorus' response
	in 2015 only and a national footprint rather than Chorus' UFB areas. We have evidence from our network records that demonstrates the 30% cap is not justified: Chorus has reused 50% of pre-2012 ducts, which is significantly higher than the proposed 30% cap.
Future benefits allocator: Approved, but with 8-year rather than 12-year time horizon	While we support the Commission's approved use of this allocator, the reduction of the time horizon from 12 years to 8 years is not justified or supported by evidence. A longer retention period is appropriate to reflect the longer-term impact of marketing expenditure. This reflects the generational investment required to build awareness of a new broadband access technology. Analysis in this submission shows that marketing expenditure is intended, on a conservative assessment, to deliver benefits that extend approximately 12 years.
Shared central office space: in future, newly vacated space should not be shared between FFLAS & non-FFLAS	We support the draft decision that Chorus' proposed central office space allocator is reasonable for the initial RAB. However, we disagree with the Commission's view that as more space becomes available (due to Spark removing NEAX exchanges and Chorus withdrawing copper equipment) this space should not be shared between FFLAS and non-FFLAS. The Commission cannot simply assume spare exchange space is avoidable, but rather needs to consider whether real world alternative uses exist. The implication of the draft decision is that Chorus should invest in purpose-built new buildings optimised for size, which would cost more and not be as heavily depreciated. The Commission needs to avoid creating perverse incentives for Chorus to invest in such buildings rather than leverage existing facilities for the benefit of end-users.

Certainty on starting RAB is essential by December 2021

13. We support the process and timings set out in the Commission's 29 June update, which undertook to finalise as much of the RAB as possible in 2021.[2] We emphasise the importance of the Commission delivering to that plan, both to provide certainty

[2] https://comcom.govt.nz/__data/assets/pdf_file/0032/258278/Commerce-Commission-Determining-Chorus27-PQ-RAB-Process-update-29-June-2021.pdf

for all interested parties and ensure the requirements of the Act are met. This means finalisation of all RAB and cost allocation decisions in 2021, with only adjustments for the difference between actual and forecast 2020/21 values being made in 2022. The Commission should not delay the RAB determination further.

We support most of the additional IM amendments

14. Most of the proposed additional IM amendments are sensible incremental improvements to the IMs.

15. The two proposed additional IM amendments that we disagree with are:

    a. *The proposal to enable the Commission to determine and apply allocators to the FLA asset that are not listed as default allocators in the IMs or proposed by Chorus* – This proposed change is significant (not a 'clarification'), will reduce certainty and is not supported by the reasons described by the Commission. It undermines the effect of listing the default allocators in the IMs, by enabling the Commission to unilaterally develop and apply new types of allocators through a less formal process.

    b. *The proposal intended to improve the workability of Asset Valuation fibre IM requirements in respect of the cost allocation process used to determine the "opening RAB value" of fibre assets at implementation date in Chorus' transitional initial PQ RAB* – The proposed change would shift the "estimated" nature of the calculations for core fibre assets away from relevant underlying historic values, to apply instead to the net calculation of post-allocated asset values. This appears to mean cost-allocated values could be revisited at the time of determining the final initial RAB in 2022. We continue to believe changes to the IMs which defer key decisions about the IAV until after 1 January 2022 are unjustifiable and inconsistent with the Act.

Scope of submission

16. For avoidance of doubt, this submission responds to the consultation papers: *Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions*, 19 August 2021, and *Proposed Additional Amendments to Fibre Input Methodologies: draft decisions*, 31 August 2021.

17. This submission is part of the record for the IM process relating to those IM amendments that are discussed in the consultations mentioned in the previous paragraph.

Finalising Chorus' initial RAB in 2021

18. To provide certainty for interested parties and meet the requirements of the Act, it is essential the Commission adheres to the process for finalising the RAB that was set out in its update of 29 June 2021.[3] This includes finalising all material RAB and cost allocation decisions in 2021 when determining the transitional RAB. The only issues to resolve in 2022 should be a narrowly defined true up for the difference between actual and forecast 2020/21 values.

19. The draft decision re-states the Commission's aim to "resolve all possible matters prior to the final PQP1 decision". However, we are concerned that the draft decision also raises the prospect of delaying certain decisions based on material raised in submissions.[4] Such a delay would not be reasonable. The Commission must consider any submissions and form a view on these in making its December 2021 decision.

20. We have, since the outset of the IMs process, emphasised the importance to Chorus, investors and other market participants of gaining certainty as early as possible regarding the value of the initial RAB. Any extension to the timeframe for determining material components of the initial RAB creates uncertainty for end-users and Chorus' shareholders. This has a direct impact on the value of shareholders' investments.

21. Our revenues in PQP1 will be contingent on a wash-up of the initial RAB in the next period. If the scope of the adjustment between transitional and final initial PQ RAB is broader than just correcting for actual 2020/21 values, Chorus would have to run its business for much of PQP1 on the basis that the Commission would apply an ex-post adjustment to revenue of unknown magnitude. That would be an unacceptable level of uncertainty against which to operate our business and creates problems for end-users who may be at risk of price shock.

22. The Commission should not seek to defer decisions on the grounds that its process design and internal prioritisation choices have not allowed time for further analysis or judgements. The Commission should be careful not to impose additional costs and uncertainty on regulated parties and wider stakeholders due to its own internal process issues.

23. Sections 170 and 177 of the Act (read together) require the Commission to determine an initial RAB based on actual asset-related values, applying s 177, before the implementation date.

24. Determining a transitional initial RAB based on estimated values, with further retrospective scrutiny[5] to follow after 2022, either amounts to: (a) determining an IM that fails to comply with s 177, or (b) deferring an exercise that Parliament expected the Commission to complete prior to the implementation date.

[3] https://comcom.govt.nz/__data/assets/pdf_file/0032/258278/Commerce-Commission-Determining-Chorus27-PQ-RAB-Process-update-29-June-2021.pdf

[4] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at paragraphs 1.21-1.24.

[5] Of years for which actual values have been supplied.

25. To conclude, the initial PQ RAB has been under development for many years and there have now been two rounds of consultation on Chorus' proposed initial valuation. It is time to conclude this process. We do not see any outstanding issues relating to the initial RAB that the Commission should not be able to resolve in time for the final PQ decision in December 2021.[6]

[6] Other than to apply a largely mechanical update next year for actual 2020/21 values.

Attribution and cost allocation

26. We support many aspects of the Commission's draft decision on attribution and cost allocation, including:

    a. Accepting, in principle, Chorus' overall approach to the attribution and allocation of costs between PQ FFLAS and ID-only FFLAS;

    b. General acceptance of Chorus' allocations of aggregated costs; and

    c. Approval of many of Chorus' proposed alternative cost allocators.

27. However, we strongly disagree with some of the Commission's proposed changes to allocators; these are arbitrary, unjustified and based on a misunderstanding of Chorus' approach. This includes:

    a. Change in allocations for CTO common costs;

    b. Applying a cap to pre-2011 ducts that is lower than the actual reuse realised from the UFB build;

    c. Assuming infrastructure sharing is capable in post-2011 UFB A-D ducts, based on the misapplication of data by the Commission, provided for a different purpose and not in this process; and

    d. Reducing the number of years in the "future benefits" allocator.

28. These would result in the under-recovery of costs incurred in building and operating Chorus' UFB network and the CTO cost allocation change would also under-fund our shared systems opex for PQP1.

CTO common costs

29. We disagree with the Commission's draft decision to change the allocation of CTO common costs from solely a totex allocator to a split between totex and a recipient business allocator type (CTO overhead).[7]

30. CTO common costs (and the constituent cost items) should remain fully allocated by totex, as per the model Chorus submitted. This is both more justifiable and more consistent with the IMs than the allocators and allocations proposed in the draft decision.

31. The Commission should rely on the information Chorus has provided regarding allocator choices. It is a complex task to analyse these costs and Chorus has spent several years analysing systems and financial records to produce the DCF calculations in the initial RAB submission. The analysis in the draft decision is not robust and the rationale the Commission has applied to revise the allocators is not clear.

[7] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at 5.48.5, 5.179

Revised allocators are not demonstrably reasonable

32. In the draft decision the Commission has:

    a. Reviewed a list of 53 cost items that contribute to CTO common costs and claimed to have identified a "better" allocator corresponding to a causal relationship for 42 of them.

    b. For the 42 cost items with revised allocators the "CTO overhead" proxy allocator is used.

    c. For allocation, CTO common costs are split into two buckets – those using "CTO overhead" and those using totex.

    d. To split CTO common costs the proportion of cost (forecast in 2022) for the 42 items (out of the 53) is applied to the total CTO common cost amount. This proportion of cost uses CTO overhead. The split is constant over time.

33. As discussed in more detail in Appendix A, we can prove:

    a. Most of the draft revised allocators put forward by the Commission are not the most appropriate cost drivers. This is because they are not related to the cost items the Commission has chosen to apply them to (and therefore they have no causal link to the cost item or basis for being a demonstrably reasonable proxy).

    b. CTO overhead is not the most suitable allocator for these cost items.

    c. Totex is a more representative allocator for the CTO common costs reallocated by the Commission.

34. In some areas the Commission has misunderstood the cost and the allocators proposed by Chorus. For example:

    a. It appears the "Service company overhead" allocator type was incorrectly considered as causal for costs related to outsourced IT and network operations. This was possibly on the basis that they were provided by external companies or because the name of the systems included the words "service" or "overhead";

    b. Systems used by all Chorus staff were narrowly associated with the "Corporate Personnel" allocator type which excludes the cost of staff related to PSM, CNO and CTO business units (which comprise the majority of Chorus staff); and

    c. Three cost items are listed in the draft decision with the WBS Description "NetMap", these are: "Spark owned sys opex", "S/ware Licence Supp" and "Software Maintenance". The draft decision proposes to apply the revised allocator type "accommodation relationship driver" for all three cost items. However, this is an inappropriate allocator because:

- Each of these cost items relate to application and license costs for software that "maintains and records the physical network design".[8] That 'physical network design' is largely for the network *outside* of exchanges.
- The Commission's proposed 'accommodation' relationship driver is based property footprint allocations of exchange space,[9] i.e. it reflects the utilisation of exchange space. This has little relationship to the use of NetMap which is primarily used for network designs outside of exchanges.
- As such, it is not objectively justifiable or demonstrably reasonable to assume the "accommodation relationship driver" would be the primary circumstance driving NetMap costs, i.e. it is not a causal allocator.[10]
- In contrast, totex is a suitable allocator type as the capex cost component has a causal effect on the intensity of network planning software usage for the UFB build. The opex component also has a causal effect on the personnel time spent and the ongoing maintenance.

35. We have provided a more complete analysis of each of the cost items in Appendix A. Chorus will continue to make its internal and external experts available to the Commission to help it understand any cost or asset questions. This will help ensure that any decisions made with respect to cost allocation are demonstrably reasonable, and are backed by data, so that they reflect Chorus' actual costs and cost drivers.

Totex is a demonstrably reasonable allocator for "CTO Common Costs"

36. The Commission notes that CTO Common Costs are "unlikely to all have the same degree of "time lag" characteristic as Chorus' corporate overheads" and that using totex could "inflate" costs.[11] We interpret this to mean that the Commission is concerned that the effort and timing of CTO Common Costs was not as related to the UFB rollout as other corporate overheads. This concern is unfounded.

37. Totex does have a causal effect on the magnitude and timing of the effort that drove the CTO common costs. For example, the cost item "Datacom IT Services Management", which is related to outsourced support for common IT services:[12]

    a. During the initial stages of the UFB rollout, considerable support was required to help access IT systems that had recently been stood up after demerger. These were relied on heavily to plan and execute the rollout.

    b. Over time, as systems have stabilised and as the rollout nears completion the driver of the cost has become more reflective of opex as the IT systems are used to operate the UFB network. This is reflected in the totex allocator, which has itself become more reflective of opex as we move from build to operate.

38. We have looked at alternative allocator types but still consider totex the most suitable for these cost items. As well as those previously listed in the opex model

[8] See RFI response 114, column F in 'Chorus CTO common costs_v02.xlsx' (6 August 2021)
[9] Analysys Mason, Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information) (Model version v3.32) (12 May 2021), at A.1.9
[10] This addresses the Commission's concern at 5.190.1 of the Draft Decision
[11] Analysys Mason, Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information) (Model version v3.32) (12 May 2021), at A.1.9
[12] See RFI response 114, column F in 'Chorus CTO common costs_v02.xlsx' (6 August 2021)

documentation for CTO common cost,[13] we have now reviewed each cost item and canvassed alternative allocators that would be in line with the methodology applied in the draft decision. If the Commission continues to disagree with our proposal to use totex, then these alternatives would improve on the Commission's revised allocators. These are listed in Appendix A and our internal experts are available to help the Commission understand how these could be used.

Post-2011 UFB A-D ducts

39. We disagree with the draft decision to limit the direct attribution of ducts constructed as part of the UFB initiative to 95%. If the Commission's position is to allocate pre-2011 assets to FFLAS based on their use, then the same should apply to these assets to only be partly allocated to non-FFLAS, e.g. when used for interexchange services. In addition, Network Strategies' report contains several incorrect statements, which we discuss below.

40. While we agree the sharing of assets installed as part of the UFB initiative may occur over time, that doesn't mean such sharing is occurring in FY22, which is what cost allocation for the initial RAB is meant to represent – a snapshot in time, or that such sharing has occurred in the period FY12-FY22 (in relation to calculation of the FLA).

41. The attribution of assets can and will change over time, which will be captured as part of periodic updates to allocations required by the IMs. If there is no sharing with non-FFLAS (or for the pre-implementation period, services that are not UFB FFLAS), then these assets should be allocated 100% to FFLAS (or for pre-implementation, UFB FFLAS).

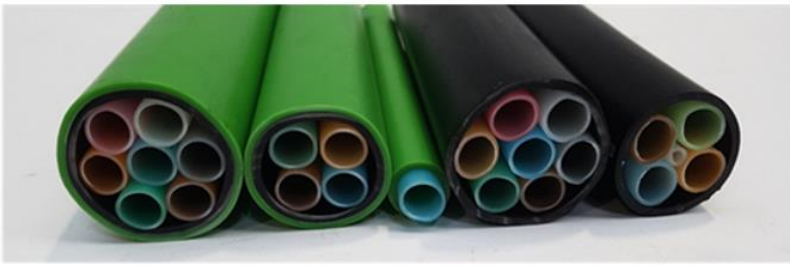
42. The fundamental point is that Chorus needs the opportunity to recover the full cost of assets used to provide FFLAS. It is not reasonable for the Commission to prevent that due to speculation these assets *may* be used to provide non-FFLAS in the future. This would embed under-recovery as Chorus would lose the ability to fully recover depreciation.

43. One of the key components of the UFB network design was the deployment of micro ducts (i.e. air blown fibre systems), of which there are two types used for UFB:

    a. **Ribbonet** – ducts that are used for the access network, and installed between the end-user and the fibre flexibility point (**FFP**). Ribbonet cannot be shared with non-FFLAS services in its current state without considerable investment.

[13] Analysys Mason, Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information) (Model version v3.32) (12 May 2021), row 89 at table 4.2

b. **Micronet** – ducts that are deployed by Chorus along some routes to extend the access network further from the local exchange, where there is insufficient capacity in existing Ribbonet ducts. The use of Micronet is discussed in more detail below.



Use of Micronet to support interexchange services

44. Some interexchange services are non-FFLAS. While it is, in principle, feasible to use Micronet duct that is both empty and in the right place for interexchange services, there is a pre-existing interexchange network that predates the UFB network – these routes already have their own pre-existing assets. This has two effects:

    a. There may well have been spare pre-existing ducts along these routes available for reuse (which would make it less likely that the new UFB A-D duct assets would overlap with the routes of the interexchange links); and

    b. These pre-existing interexchange links use the pre-existing network and will not be immediately reprovisioned using the UFB network: therefore, even the Commission's own arguments about potential for reuse would only suggest that a small fraction (e.g. 5%, in the Commission's view) of future fault repairs might have reason and ability to use an adjacent Micronet duct. As explained below, even this would not be straightforward.

45. Interexchange services carry large numbers of end-users' traffic and merit a higher degree of protection from disturbance. Chorus endeavours to avoid having interexchange fibres and local distribution fibres in the same cable sheath. This is because technicians require regular access to distribution cables to provision new connections. This access increases the risk of faults on interexchange links. Our preference to keep the cables physically separated means that the number of future scenarios in which an interexchange link would use a UFB Micronet duct will be very small.

46. As already noted above, interexchange routes existed prior to the UFB initiative. While Network Strategies believes UFB FFLAS ducts can be shared with services such as Chorus Regional Transport (**CRT**), these routes pre-date UFB.

47. It would also be challenging to utilise Micronet ducts in the event of a fibre cut on an existing interexchange route. As a result of the rationale for the deployment of Micronet ducts for UFB, these Micronet ducts overlap with the interexchange fibre routes are partial and intermittent – so if there were a fibre cut, it would be challenging to reuse Micronet for interexchange services, unless that duct is in the exact location of the fault.

Evidence of Micronet duct sharing

48. Only a very small proportion of these ducts are in the right place and capable of reuse with non-FFLAS interexchange services. To evidence this, we have extracted data from our network records for fibre routes that provide core, mesh and regional connectivity. We then extracted data where we have deployed Micronet duct capacity along these same routes:

    a. Nationally, there is 19,221km of fibre route supporting core, mesh and regional connectivity, of which 3,240km of route is within Chorus' UFB areas.

    b. Nationally, Micronet duct associated with these routes is 760km. This represents 3.7% of the 20,311km of total new UFB A-D duct built for UFB.

49. Chorus' network design means 80% of Micronet duct capacity will be fully utilised for FFLAS over time to support growth. Only 20% of the 3.7% overlap (or less than 1% of the total (post-2011) UFB A-D duct) will therefore be available for non-FFLAS use in the long run. This is considerably less than the immediate 5% assumed in the Commission's draft decision.

50. In Network Strategies' report, it assumes evidence of actual utilisation is not available, but we've provided additional information in this submission to explain the position. The best evidence is the information Chorus provides, rather than Network Strategies' assumptions regarding an efficient operator.

BBM is not TSLRIC: Network Strategies has misunderstood the legislation

51. Network Strategies' evidence appears to rely on the efficiencies that would apply to a hypothetical efficient operator. However, applying optimisation assumptions is not appropriate in a DCF calculation under a BBM regime and the legislation does not provide for such optimisation in valuing the initial RAB.[14] Precedents from other jurisdictions using LRIC+ regimes are irrelevant. We note that for example, where Chorus shared open trenches with EDBs, it is already reflected in Chorus' actual costs recorded in the fixed asset register.

52. The assumed infrastructure sharing is based on an assumption the UFB ducts are deployed and shared from Day 1. This is incorrect, as the Commission is not tasked with modelling a hypothetical efficient operator who achieves efficiencies overnight. In reality, if any such sharing were to occur (following the discussion above) it's more likely that this would build up over a very long time, multiple decades, as interexchange ducts fail. This should be reflected in a BBM regime. Accordingly, the Commission's proposed allocator for post-2012 UFB A-D duct and manhole assets should be modified such that it does not jump to 5% sharing on day one but only slowly grows to the target level of sharing over an extended period (e.g. 20 years).

[14] See May 2017 Cabinet Paper, paragraphs 38-40, for the deliberate policy decision to rule out efficiency adjustments in relation to the value of fibre assets in the initial RAB.

Pre-2011 ducts

53. We disagree with the draft decision to apply a 30% cap to the allocation of pre-2011 ducts for UFB FFLAS as:

    a. We have evidence from our network records which proves 30% is materially too low.

    b. The Commission cannot ignore the legal requirement that Chorus must have the opportunity to recover costs and achieve real FCM. The cap would prevent this occurring. Applying a cap without sufficient evidence is equivalent to an efficiency adjustment.

    c. The Commission risks misusing data supplied during the UCLL and UBA FPP in 2015, which was provided over six years ago in a different statutory context for an entirely different purpose.

54. Chorus' ducts are a common (unavoidable) cost, and we should expect to recover this cost from FFLAS as well as non-FFLAS end-users. This means:

    a. As end-users migrate from copper to fibre, the duct cost should be reallocated to FFLAS, otherwise real FCM is not achieved.

    b. There are sufficient safeguards in place, as the Commission's filters (i.e. timing, geography and availability) ensure that pre-2011 ducts only enter the RAB as customers disconnect from copper and migrate to fibre.

    c. These ducts enter the initial RAB at depreciated historic cost, which is a fraction of their true value. Using these assets avoids further costs in building the fibre network.

55. In the FPP, the Commission was tasked with modelling the costs of a hypothetical efficient operator, building a nationwide fibre network with 100% demand on Day 1. Chorus provided network data, including:

    a. 26.8% of the underground routes in Chorus' network are ducted. The remaining 73.2% are direct buried. However, this refers to all ducted routes, whereas the UFB network is concentrated in the Won/UFB area, so the related ratio is different from the national one.

    b. In 2015, 27.8% of ducted routes contained at least one spare duct which would in theory permit reuse by a non-Chorus party. If we had measured this at demerger, there would have been more routes with spare ducts, some of which were used by UFB and no longer empty when measured in 2015.

56. In addition, the response the Commission references from 2015 was caveated as being based solely on the number of assets identified by a snapshot of Chorus' existing assets at a particular date. This doesn't provide an accurate account of what assets are actually capable of reuse over time because Chorus can extract unused cables and create additional capacity (and also intends to do this in the future). In addition, Chorus is able to reuse for its own purposes ducts that are not completely empty and such ducts were not captured in the FPP response.

57. So, in practice Chorus has been, is, and will be able to reuse a higher percentage of ducts than indicated in the FPP response (or the Commission 30% figure) because:

    a. During the UFB build, we were strongly motivated to use existing ducts and if necessary to make room in existing ducts, by remediating ducts or removing unused cables; and

    b. Looking forward to a point where the copper demand in UFB areas has been greatly reduced or eliminated, we expect to remove unused cables to free up duct space to deploy fibre cables as fibre demand grows.

58. We have extracted data from our network records, which proves the 30% cap is too low:

    a. Length of pre-2012 duct routes is 24,638km, of which 14,229km are within Chorus' UFB areas.

    b. To evidence what has already been reused for the UFB initiative, we have extracted route length data where Chorus has (as at 30/06/21):

        - Hauled a Ribbonet duct within a pre-2012 duct;
        - Hauled a Micronet duct within a pre-2012 duct;
        - Hauled both Ribbonet and Micronet duct within a pre-2012 duct; and
        - Hauled a UFB fibre within a pre-2012 duct.

59. Table 2 summarises the output, showing that 50% of pre-2012 duct routes have already been reused.

Table 2: reuse of pre-2012 ducts (as at 30/06/21)

	Total pre-2012 duct route length	Total reuse of pre-2012 ducts for UFB	Percentage of pre-2012 ducts reused
UFB areas	14,229km	7,043km	50%

60. Part of this data analysis identified an error in the previous analysis of the fraction of duct routes that overlap the Chorus UFB area: routes that cross multiple FFP boundaries were previously unintentionally counted twice. Removing this error slightly decreases the percentage of Won area duct routes overlapping UFB areas and the corrected overlap will need to be used in updating the model calculations.

Future benefit allocator

61. The Commission's draft decision is to approve the future benefit allocator type. We agree with the Commission's decision to apply the future benefit allocator type for marketing costs.[15]

62. However, we disagree with the Commission's draft decision to reduce the number of years used to calculate future benefit from 12 to 8 years.

Twelve years is an objectively justifiable and demonstrably reasonable period

63. The four-year connection life used for customer retention costs in Chorus' financial statements cannot be used to justify reducing the future benefit allocator to eight years. Part of the Commission's rationale for reducing the time period over which future benefits are calculated is that this more closely aligns to the connection life used to amortise customer retention assets. This conflates two different concepts and is simply incorrect.

64. Customer retention assets include costs related to incentive credits and those relating to support new connections. For these costs, the relevant average customer lifetime is the average connection life, defined by the average amount of time Chorus estimates a fibre customer is on the network before the next connection order (i.e. time until the first disconnection). This is the relevant time period for incentive credits because after this period, if a customer disconnects and reconnects (for example, where a customer moves house and terminates their connection at their old house) then a new credit would be applied.

65. However, the same cannot be said for marketing costs where four years is not the relevant time period. As acknowledged by the Commission,[16] marketing costs are intended to have a long-term impact due to long-term retention (this includes the effect of education about fibre services and promotion of a generational shift in technology, which affects long-term consumer action). This is better reflected by the average customer lifetime on the network, rather than before first disconnection, as an end-user may disconnect from the network only to reconnect shortly after, the type of behaviour marketing expenditure is intended to support.[17] In the telecommunications industry this is commonly estimated as:[18]

$$CL = \frac{1}{CR}$$

Where: CL = average customer lifetime on the network

CR = average churn rate

[15] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at 5.48.1, 5.80, 5.97

[16] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at 5.92

[17] Another way of thinking about this is that we are more interested in a person staying on the network rather than the time period a single address stays on the network. Marketing helps encourage people to choose UFB even when they move to a new house. For example, if a person moves to a new house every four years but after twelve years moves to an alternative network then four years is the relevant period for customer incentives whereas the twelve years would be indicative of the benefit from marketing.

[18] Dejan Krstevski, Managerial Accounting: Modelling Customer Lifetime Value - An Application in the Telecommunication Industry (April 2016), equation 6

66. A conservative use of this is consistent with a time period of three customer connection lives to estimate the intended effect of marketing. In Chorus' case, we have estimated a churn rate of **[Chorus CI]** this supports an average customer lifetime on network of **[Chorus CI]** years. This analysis is based on gross churn rates[19] across all NGA products, in all geographic areas. Limiting this further to Chorus UFB areas only would likely increase the estimate lifetime on the network.

67. We also note that there are system limitations which possibly underestimate the four-year connection life used for customer retention costs. NGA connection data from our billing systems was first loaded into the Chorus Data Warehouse (**CDW**), in July 2015 which means that the four-year connection life estimate is currently capped at six years.[20] To illustrate how this affects connection life we observe that **[Chorus CI]** of NGA connections recorded in CDW existed in 2016 for which we cannot determine a recorded connection life (as they are yet to disconnect). Furthermore, the median and average connection life has increased each year.

Twelve years does not materially increase forecast uncertainty for revenue mix

68. The Commission states that Chorus' confidentiality claims have highlighted the uncertainty in forecasts that extend beyond the 5-year plan forecast. However, our claims in respect of forecasts were based around our market disclosure obligations. The extrapolated forecasts could give the market confidential information not previously disclosed.[21]

69. While there is risk and uncertainty in revenue forecasts, this is not an important factor for the future benefit allocator. The expected forecast error is smaller for the percentage split between FFLAS and non-FFLAS revenue than it is for the amount of total revenue. Importantly, the regulated copper withdrawal essentially guarantees that the regulated FFLAS percentage of revenue will not decrease below current levels.

70. To highlight this, we can look at the revenue allocator value and see that the split of FFLAS and non-FFLAS revenue grows significantly faster during the period where historical data exists compared to the period beyond the 5-year plan. For the five year period from FY12 to FY17 the percentage increases **[Chorus CI].** However, in the forecast period beyond the 5-year plan, from FY26 to FY31, this is only forecast **[Chorus CI].**[22] For the forecast to be materially incorrect in the longer term, the Commission would essentially have to assume that the proportion of copper revenues would be stable or increasing during the forecast period, which is not a demonstrably reasonable assumption.

71. Customer retention costs should not be used as an indicator of the intended effect of marketing spend. The Commission notes that the proportion of customer retention capex for fibre is lower in FY19 and FY20 than the future benefit allocator would suggest. However, these do not reflect the intended long-term benefit of marketing

[19] Specifically, a 6 month rolling average rate defined by (estimated number of premises disconnecting from NGA in a given month – estimated number of premises reconnecting to NGA within 2 months)/(previous month's total NGA connections).
[20] As of 2021
[21] As maintained throughout our confidentiality claims, including, for example, on 21 May and 28 May 2021.
[22] Analysys Mason, Documentation of opex allocation for the BBM opex workstream (including responses to notice to supply information) (Model version v3.32) (12 May 2021), figure A.82 The "Revenue" allocator

related spend. As Incenta notes,[23] marketing costs across both technologies were intended to increase FFLAS uptake in the long-term:

> *Chorus undertook substantial marketing initiatives to promote the use of better broadband services, which were agnostic to the technology employed… customers may be encouraged to adopt a better quality of copper broadband service, but these customers would then be more likely to upgrade to a fibre service once the fibre services were available.*

Cost cap

72. We welcome the Commission's acceptance of Incenta's characterisation of the shared cost cap and Incenta's consideration of factors that are relevant to the application of the cap.[24] However, we think the Commission's concerns regarding over-allocation of spare exchange space to FFLAS are unwarranted. The Commission cannot simply assume spare exchange space is avoidable, but rather needs to consider whether real world alternative uses exist.

73. As we have previously submitted, Chorus is incentivised to earn unregulated revenues which provides an incentive to find alternative uses for assets.[25] However, the benefits of repurposing exchange space need to be considered against the costs of doing so and in some cases the costs outweigh the benefits. This is consistent with the Commission's views that vacant space at some sites is unlikely to be avoidable.

74. We disagree with the Commission's assertion that, going forward, space made available from the removal of copper equipment at large sites should not be allocated to FFLAS. The counterfactual is purpose-built new buildings optimised for size which would cost more and not be as heavily depreciated. The Commission needs to avoid creating perverse incentives for Chorus to invest in such buildings rather than leverage existing facilities for the benefit of end-users. Chorus is continuously exploring opportunities for exchange space and so we are confident that any costs that are practically avoidable will be avoided.

Other issues

Data in Chorus demand model

75. Network Strategies has misinterpreted Chorus' demand model in its report:

    a. **FY20** – Chorus' initial RAB models (including demand) are based on Chorus' audited statutory accounts up to 30 June 2020 – there is no mix of actuals and forecasts in FY20, as suggested by Network Strategies. While there is an immaterial difference between actual connections in Chorus' demand model and the FY20 statutory accounts, the difference is due to Ministry of Education initiative where free connections were offered in response to Covid 19, as explained in the FY20 Annual Report.[26]

[23] Incenta, Certain cost allocation issues relevant to the IAV (March 2021), at 5.92
[24] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at 5.295
[25] Chorus, Submission on Commission's consultation on Chorus' initial PQ RAB (28 May 2021), at 63
[26] Chorus (24 August 2020), Annual Report 2020, p22 (refer to footnote 1).

b. **FY21-FY25 and Chorus' 5YP** – while Network Strategies raises concerns regarding Chorus' demand forecasts, no new evidence has been presented. We stand by our submission in response to the Commission's PQ draft decision, in summary:[27]

- Independent experts and evidence of demand prove the integrity of Chorus forecasts, while the 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.
- We also refer the Commission to Sapere's expert report,[28] which accompanied our submission in response to the Commission's PQ draft decision.

c. **Forecasting beyond FY26** – as per above, we do not agree with Network Strategies' findings of Chorus' demand forecasting.

Central office space

76. We support the Commission's draft decision to accept Chorus' central office space allocator. The model was subject to a robust internal assurance and certification process that related to IM compliance and accuracy of representation of Chorus' operations.

Draft decision's opex starting point is unclear

77. The draft decision states that "Chorus' estimate" of PQP1 opex was $448m, from which $40m has been deducted due to the cost allocation draft decisions, mostly relating to CTO common costs.[29]

78. Chorus has not been able to reconcile this $448m opex value. It is close but not equal to the nominal opex allowance in the Commission's PQ draft decision, but we note the allowance in the PQ draft decision was not "Chorus' estimate" of opex. The $448m opex value is much lower than what Chorus put forward in our expenditure proposal. We request clarification on this point.

[27] Chorus, Submission on price-quality path draft decision, 8 July 2021, paragraph 7.2.
[28] Sapere, New Zealand Residential Building Consents 2021-2025: Report prepared for Chorus, 30 June 2021.
[29] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at Table X.1.

$6b RAB estimate

Overview

79. While we initially submitted a conservative starting RAB of $5.5b, we were mindful of the challenging timeframes facing the Commission to finalise PQ decisions for RP1, and that the Commission could accept our certified asset valuation outcome. However our supporting information, noted below, outlines how different IM-compliant choices on technical matters are available and better reflect the outcomes that in our view were expected under the Act. This would increase the range of the initial RAB to up to $6b.

Chorus models

80. To provide context on the initial RAB models Chorus supplied to the Commission:

    a. In response to a s 221 notice, we provided information in a form specified by the Commission and which reflected, in our view, a conservative lower bound for an appropriate initial RAB valuation; and

    b. A RAB closer to $6b, which requires certain upfront costs as a direct result of the UFB initiative to be included in the RAB and recovered through FFLAS prices. In our view this is a proper application of s 177.

81. We remain of the view that the IMs and Telecommunications Act could support the $6b valuation, as a standalone cost approach:

    a. Reflects the reality that Chorus was established to build and operate a fibre-to-the-home network – this was a pre-requisite to participating in the UFB initiative. Accordingly, the incremental costs that arose out of the requirement for the one entity to be split into two (Chorus and Telecom) were incurred for the sole purpose of participating in the UFB initiative, and hence are costs that are incremental to the UFB initiative.

    b. In a workably competitive market, Chorus' incremental investment in standing up the fibre business would be recovered from consumers of the fibre service, not from the consumers of copper services.

    c. Fibre was and is expected to replace copper in UFB areas, meaning the focus of Chorus has been on fibre investment and uptake.

New proposed allocators

82. Chorus used alternative allocations to better reflect the true cost drivers of the fibre business, where the costs allocated are based on the underlying drivers of standing up a fibre business:

    a. **Fibre** – 100% of an expense category is allocated to FFLAS, recognising incremental costs from standing up Chorus as a fibre business is allocated to FFLAS.

    b. **Fibre 60 Totex 40** – where some expense categories have a mix of costs, on average 60% relates to incremental costs from standing up Chorus as a fibre

business and the remaining 40% is allocated between FFLAS and non-FFLAS using totex.

83. The Commission has misunderstood Chorus' intent for a change in the following cost allocators:

    a. Pass-through costs (excluding rates) revenue; and

    b. Pass-through costs (excluding rates) fibre.

84. As per our cover letter in response to the s 221 Notice (13 May 2021), we had previously included pass-through costs in the opex building block. The reclassification of these costs was to be consistent with consistent with IM requirements, separating them from other opex, and allowing them to be included as pass-through costs in the revenue allowance calculation. This change to the opex model was required to create a compliant opex input for the MAR model.

Financial Loss Asset

Time value of money and tax losses

85. We support the Commission's proposal to change the IMs to use a vanilla WACC rather than a post-tax WACC to calculate the FLA. We also are comfortable with the proposition that carried forward tax losses would be higher by the amount of notional interest over the pre-implementation period. For workability, it is preferable that the tax effect of tax losses is calculated consistent with our modelled approach.

86. The Commission has previously indicated[30] that its use of a post-tax WACC rather than a vanilla WACC to discount pre-implementation date cash flows would give rise to an error in the event of substantial tax losses. The Commission acknowledged that this would require a correction to account for the difference in the time value of money and that this correction could take place via IMs amendment.

87. As a further point, while the calculation is not wrong, Table 6.1 in the PQ RAB draft decision paper does not properly summarise the initial RAB model and it understates materially the benefit the Commission has assumed from Crown financing. The Crown financing values are annual streams that continue from the year in question to the end of the period, and so accumulate over time.

WACC estimate

88. Chorus continues to disagree with the Commission's method of applying annually updated WACC estimates for the FLA calculation and with certain WACC parameters selected by the Commission. However, given those decisions are now made, we support the draft decision to apply the Commission's estimates of the vanilla WACC as the relevant DCF compounding rates for the calculation of the FLA.

[30] Commerce Commission, Fibre input methodologies Financial loss asset final decision – reasons paper, 3 November 2020, paragraph 2.41.

Scope of FFLAS

Field services, CRT and UNI

90. We support the Commission's proposals to:

    a. Accept our treatment of field services and CRT – but we note that CRT is always between UFB POIs and therefore never FFLAS (as implied in the description of Transport Services in Table A1 of the draft decision); and

    b. Include a User Network Interface definition. We think this is a useful definition that provides further clarity. We note the Commission refers to "Universal Network Interface" in paragraph A22 of the draft decision (and in the table of abbreviations on page 5) and assume the Commission means to use the term 'User Network Interface', as in the preceding paragraph and in line with the proposed definition in its 28 May IM amendments draft decision. 'Universal Network Interface' would imply a point anywhere on our network, which we do not believe the Commission intended.

Categories of FFLAS services

91. We make the following comments on the Commission's categorisation of services within the scope of FFLAS (Table A1 in the PQ RAB draft decision):[31]

    a. Under the 'Connection Services' category, the Commission describes Chorus' services as "First time installation of a UNI for Voice service, Bitstream PON services, Unbundled PON Services, point-to-point services." In the context of connections, use of the term "installation" could be confusing. We think the language used in Reference Offers is more accurate, which refer to establishment of a 'new service instance' of the relevant service. As such, we propose that Chorus' Connections Services are described as "Establishment of a new service instance of a UNI for Voice service, Bitstream PON services, Unbundled PON Services, or point-to-point services."

    b. Column 3 of Table A1 contains some examples that are not FFLAS services. We consider that column 3 should be a subset of column 2, but it currently contains examples that are not wholly FFLAS (e.g. not all co-location is FFLAS (co-location supporting UCLL is not FFLAS); not all HSNS Lite is FFLAS (that delivered over copper is not FFLAS); and not all UNI installations are FFLAS (e.g. copper installations are not FFLAS)).

[31] We note that, other than the statements below, we accept the Commission's classifications in its Table A1 for the purposes of determining an initial RAB for Chorus, but this does not mean we accept that every instance of these services is FFLAS on a strict application of the FFLAS definition.

IM amendments

92. This section is Chorus' submission on the draft IMs amendment determination of 31 August 2021.

Introduction

93. The Commission has published proposed amendments to the IMs to implement its proposed approach to determining the initial PQ RAB and transitional initial PQ RAB (**Further Amendment Proposals**). The Further Amendment Proposals are in addition to the amendments proposed on 27 May 2021 (**First Amendment Proposals**). We provided two submissions and a cross-submission on the First Amendment Proposals.[32]

94. Our submissions on the First Amendment Proposals set out our views on matters such as the framework for IMs amendments and proposals to allow the Commission to defer key decisions on the initial PQ RAB into 2022. These matters are relevant to the Further Amendment Proposals and we refer the Commission to our earlier submissions which articulate our views on these points. In particular, we continue to believe it is neither lawful nor justifiable for the Commission to defer key decisions about the initial PQ RAB into 2022.

95. Our submissions on the First Amendment Proposals also set out a number of additional changes which are desirable given the purposes for which the Commission has reopened consideration of the IMs. The Commission states it has not yet considered submissions made on the First Amendment Proposals (except in relation to operating costs and asset values that are not directly attributable to regulated FFLAS/ UFB FFLAS), though some of the proposals in the Further Amendment Proposals relate to matters raised in our submissions on the First Amendment Proposals. To the extent that the Further Amendment Proposals do not address the changes described in our submissions, we continue to believe these are desirable and within scope of the Commission's IMs amendment exercise.

96. In this submission we comment on the specific amendments described in the Further Amendment Proposals. Our comments should be read in conjunction with our views expressed in submissions on the First Amendment Proposals.

[32] Chorus, Submission on proposed amendments to the IMs for Fibre – August 2021 amendments, 24 June 2021; Chorus, Submission on proposed amendments to the IMs for Fibre – November 2021 amendments, 8 July 2021; and Chorus, Cross-submission on amendments to the IMs for Fibre, 22 July 2021.

Commission's proposed amendments

97. In **Table 3** we set out our responses to the Commission's amendment proposals. We have noted whether we support the proposals and our reasoning. Where we think drafting changes are required to better achieve the purpose of the amendment, we have proposed that following the table.

Table 3: Chorus responses to the additional IM amendments

	IMs amendment topic	Position	Comment
1.	Provide for alternative methodologies with equivalent effect or substantially the same effect which may be applied in determining the financial losses;	Support	We agree that IMs which cannot be implemented (due to limitations in information or modelling capability) do not achieve the purpose in s162, whereas alternative methodologies achieving an equivalent or substantially similar effect can. We also agree that the provision maintains certainty because an alternative methodology must have an equivalent or substantially the same effect. This means Chorus and LFCs can still reasonably estimate the material effects of a methodology on it (consistent with section 176 of the Act). We note that the reasoning outlined by the Commission is equally applicable to the forward-looking IMs for setting PQ paths and ID obligations. We do not agree with the Commission that including this would risk reducing certainty (para 3.17). In fact, the Commission has described how the provision maintains certainty (para 3.13). We understand the purpose of these amendments is to facilitate the determination of an initial PQ RAB, but we think the Commission should consider including a similar provision for the forward-looking IMs for setting PQ paths and ID obligations.

	IMs amendment topic	Position	Comment
2.	Correct for the effect of tax losses;	Support subject to drafting changes	We agree it is important the IMs be amended to correct for the effect of tax losses. We commented on this in detail in our submissions on the First Amendment Proposals.[33] In our submission we proposed a way to correct for the effect of tax losses while maintaining the use of a post-tax WACC. In the Further Amendment Proposals the Commission has proposed to address the issue by changing to use a vanilla WACC. We agree this is a sensible approach and support the use of vanilla WACC. We have reviewed the Commission's proposed amendments and think a few changes are required. These are set out in our drafting recommendations below.
3.	Correct errors in the present value benefit of Crown financing formulae, as used to determine the financial losses;	Support subject to drafting changes	We support the Commission's proposal to correct for errors in the formula used to calculate the present value benefit of Crown financing. This was an issue we raised in our submission on the First Amendment Proposals.[34] We have reviewed the Commission's proposed amendments and think a few changes are required. These are set out in our drafting recommendations below.
4.	Clarify other allocator types that may be applied by the Commission in determining the financial losses;	Oppose	This proposed change is significant (not a 'clarification'), will reduce certainty and is not supported by the reasons described by the Commission. There is nothing in any of the paragraphs identified by the Commission in the IMs final decisions paper (paras 3.239.3, 3.333, 3.343 and 3.346) which shows a clear intent for the Commission to be able to unilaterally select alternative allocators not included in the default list. This is therefore not a clarification of 'original drafting

[33] Chorus, Submission on proposed amendments to the IMs for Fibre – August 2021 amendments, 24 June 2021; paras 41-45.
[34] Ibid; paras 46-55

	IMs amendment topic	Position	Comment
			intent' but a material change to the allocators which can be selected. This does not meet the Commission's own thresholds for out of cycle IM amendments. As currently drafted, clauses B1.1.6(1)(c)(x) and B1.1.6(2)(d)(x) allow the Commission to approve allocators proposed by the regulated provider. This is sensible and consistent with the reasoning for which the Commission is proposing a provision allowing it to accept alternative methodologies achieving an equivalent or substantially similar effect. Allowing the Commission to generate its own allocators (which have not been proposed by the regulated provider) is a significant change which will obviate the certainty provided by the list of allocators in clauses B1.1.6(1)(c) and B1.1.6(2)(d) for regulated providers. The provision, as amended, would no longer allow the regulated provider to reasonably estimate the effect of the methodology. It would accordingly be inconsistent with section 176 of the Act. We believe the current text, allowing the Commission to approve allocators proposed by the regulated provider, should remain as it materially better achieves the purposes in sections 162 and 176.
5.	Correct errors in formulae for "UFB cost allocation adjustment cash flow", as used to determine the financial losses;	Support subject to drafting change	We agree the formula in the current IMs needs to be adjusted. We note there may be an inconsistency between the proposed changes to the IMs and the way the calculation is described in the IAV reasons paper. Specifically, the proposed IMs amendments require an asset class by asset class calculation whereas the description in the IAV reasons paper doesn't include this. We think the IMs amendment proposal is the correct approach – an asset class by asset class calculation is required. We recommend this is clarified in the final IAV decision. For additional clarity we have suggested some drafting changes below.

	IMs amendment topic	Position	Comment
6.	Correct errors in formulae for 'revenue date compounding factor', as used to determine the financial losses;	Support	We agree this change is required. The IMs amendment proposal reflects what has been done in our IAV model. We note there may be an inconsistency between the proposed changes to the IMs and the way the calculation is described in the IAV reasons paper. This is because the IAV reasons paper describes a mid-year + 34 days formulation (with some rounding mid-calculation – which the IAV reasons paper specifies in an ambiguous way). By contrast the IMs amendment proposal specifies a number of days which aligns with our IAV model. For clarity, we recommend the Commission set out an explanation of the "days from revenue date to implementation" calculation as well as the numbers themselves.
7.	Correct errors in Cost Allocation fibre IM provisions that specify requirements for operating costs and asset values that are not directly attributable to regulated FFLAS and UFB FFLAS;	Support	As the Commission notes, this is an issue we identified in our submission on the First Draft Amendments.[35] We support this error being addressed in the manner described by the Commission.
8.	Improve the workability of Asset Valuation fibre IM requirements in respect of the cost allocation process used to determine the "opening RAB value" of fibre assets at implementation date in Chorus' transitional initial PQ RAB;	Oppose	We have had difficulty understanding the reasons for the proposed changes and their impact on us. However, we understand the proposed changes are intended to: (a) provide for cost allocation of core fibre assets at implementation date to be undertaken via the PQ cost allocation provisions (and the financial loss asset considered to be directly attributable to PQ FFLAS); and

[35] Chorus, Submission on proposed amendments to the IMs for Fibre – August 2021 amendments, 24 June 2021; Appendix A

	IMs amendment topic	Position	Comment
			(b) shift the "estimated" nature of the calculations for core fibre assets away from relevant underlying historic values, to apply instead to the net calculation of post-allocated asset values. If this is correct the change described in (a) seems sensible, but we would not support changes for the purpose in (b). The changes in (b) appear to mean cost-allocated values could be revisited at the time of determining the final initial RAB in 2022. As set out in our submission on the First Amendment Proposals, changes to the IMs which defer key decisions about the IAV until after 1 January 2022 are unjustifiable and inconsistent with the Act.[36]
9.	Clarify how certain Asset Valuation fibre IMs for ID are used to determine asset valuation inputs for Chorus' maximum revenues for PQP1;	Support subject to drafting change	We agree that alignment between the ID and PQ parts of the IMs enhances certainty, and we are comfortable with these changes as they relate to the financial loss asset. For core fibre assets however, the proposed changes in clause 3.3.1(7)(c)(i)(A) deem the "opening RAB values" at implementation date to be "unallocated closing RAB values" for rolling forward asset values through PQP1. Allocated and unallocated values should not be conflated in this way, and the relationship between opening and closing values also needs to be specified (see further in response to point 11 below).
10.	Clarify the treatment of negative, positive or nil values for the calculation of price-quality path forecast values for the financial loss asset	Support subject to drafting change	We agree that if the financial losses at the implementation date are negative the initial value of the regulated provider's FLA should be set to the absolute value of the losses. This is necessary in order for an asset with a positive asset value to be established at the implementation date.

[36] Chorus, Submission on proposed amendments to the IMs for Fibre – August 2021 amendments, 24 June 2021; paras 9-20

	IMs amendment topic	Position	Comment
			We recommend a drafting change to clause 2.2.4 to clarify that the defined calculation of financial losses under B1.1.2(1)-(2) (where a negative result indicates a shortfall) results in a positive value of the FLA to be added to the initial PQ RAB.
11.	Correct an error in clause 3.2.1(4) of the Cost Allocation fibre IM for price-quality paths.	Support and suggest further clarification	We agree this is a sensible error correction as allocators are applied to unallocated asset values, rather than to allocated values.

Drafting recommendations

99. In this section we set out our proposed drafting changes described in **Table 3** above. Numbers in headings correspond to row numbers in **Table 3**.

Effect of tax losses (2)

100. We propose two corrections:

a. Maintaining the reference to clause B.1.1.9(4) in clause 2.3.3(3). This will provide certainty that the tax losses are rolled forward correctly each financial year.

b. Adding a new clause to B1.1.7 (Tax costs for determining the financial losses) that provides guidance as to how notional interest is to be calculated during the pre-implementation period. The notional interest calculation is material to tax losses and therefore guidance is required to provide certainty. The outline of the proposed change is below:

> B1.1.7(5) For the purpose of subclause (3), notional interest must be calculated for each financial loss year as the difference between:
>
> > the notional interest that is consistent with the sum of the value of the core fibre asset and financial loss asset for the financial loss year in question, multiplied by the level of gearing and the debt interest rate that are as consistent as practicable with the rates applied when calculating the financial loss asset; and
> >
> > the interest on the debt component of the Crown financing that is attributable to the financial loss year in question including, for the avoidance of doubt, interest associated with drawdowns of Crown financing that took place in years period to the year in question.

Present value benefit of Crown financing (3)

101. We support the intended effect of the Commission's proposal. While the proposed amendment to B1.1.2(5) appears to give same effect as our model, the drafting below is clearer and provides more certainty that the calculation is consistent with the current modelling. The formula below separates the debt-like equity and other equity components.

$((A_1 \times B_1) + (A_2 \times B_2) + (C_1 \times D_1) + (C_2 \times D_2))$ where:

A_1 = senior debt drawdown

B_1 = annual cost of senior debt

A_2 = subordinate debt drawdown

B_2 = annual cost of subordinate debt

C_1 = debt-like equity drawdown

D_1 = annual cost of debt-like equity

C_2 = other equity drawdown

D_2 = annual cost of other equity

UFB cost allocation adjustment cash flow (5)

102. Changing the definition of 'opening cost allocator value' in B1.1.2(4) to accurately reflect NBV adjustments and allocated depreciation.

'opening cost allocator value' is calculated in accordance with the following formula-

(sum of UFB opening asset values for that asset class + sum of value of commissioned assets – sum of allocated depreciation + sum of allocated NBV adjustments) ÷ sum of UFB unallocated closing asset values for that asset class

Treatment of negative values in calculation of PQ forecast values for the FLA (10)

103. To improve the certainty, cl 2.2.4 it needs to be amended so that it is clear that the calculation of financial losses under B1.1.2(1)-(2) (where a negative result indicates a shortfall) results in a positive value of the FLA to be added to the initial PQ RAB. The current IM only references B1.1.2(2) which does not specify the treatment of negative financial losses.

2.2.4 Initial RAB value of financial loss asset

(1) The 'initial RAB value' of the financial loss asset for a regulated provider is equal to the financial losses determined by the Commission in respect of the financial loss period in accordance with s 177(2) of the Act and clause B1.1.2(1)-(2) of Schedule B.

Appendix A: CTO Common Cost allocator assessment

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
CTO Common Cost Allocation		
Accommodation relationship driver Note: allocator relates to primarily to exchange space.	• NetMap • Address Location Management (ALM)	**Cost summary**: NetMap contains network records. Due to the size of the Layer 1 network, this largely relates to network assets outside of exchanges. NetMap's primary use over the past 10 years has been to support the design and deployment of UFB. ALM contains every location and address in the country. It is used to validate addresses for all orders and for modelling new property development builds which are largely fibre. **Review of revised allocator/CTO overhead allocator**: Neither of these costs are primarily related to, or causally driven by, exchange space costs because they relate to network assets and addresses outside of the exchange. CTO overhead is also an unsuitable allocator for these costs as it reflects the utilisation of the CTO business unit and therefore does not directly reflect the utilisation caused by network build which is a key driver of NetMap cost. In our modelling, we have applied CTO overhead to capitalised labour costs, which these Netmap and ALM are not highly correlated with. **Why totex is demonstrably reasonable:** Totex is a suitable allocator type as these costs are used to both maintain the existing network, and for the planning design and build of the new network. The capex cost component has a causal effect on the intensity of network planning software usage for the UFB build and

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		the opex component also has a causal effect on the personnel time spent and the ongoing maintenance. Totex also better reflects the timing and overall effort of the UFB build by capturing our move from build to operate, resulting in FFLAS capex reducing while opex is increasing over time. **Alternative allocators considered:** For NetMap: NBV of L1 assets For ALM: Orders Our initial view is that these alternatives could approximate how costs are incurred more accurately than the Commission's draft revised allocator. However, totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss these further.
Corporate Personnel Note: allocator relates to utilisation of corporate personnel. This *excludes* PSM, CNO and CTO personnel.	Information systems • BI Feeds • Oracle License • Chorus Data Warehouse • Infosphere • Sharepoint Documents online • Chorus Appln Maintenance SAP • SAP People Management • SAP-ERP Other shared systems/costs	**Cost summary**: Information systems are used in almost all aspects of Chorus' business including network performance, commercial performance and general analysis. This includes systems producing reports provided to the Commerce Commission, MBIE, CIP, and our RSP customers on FFLAS and non-FFLAS. SAP provides HR functions for all Chorus staff, not just corporate. SAP also provides financial planning and management functions, billing, inventory and spares management. Other shared systems include telephone services, desktop services, business network services and site access to all employees across multiple sites. These are not limited to corporate employees.

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
	• SSA Incentive Payments • Server-Desktop SW Licence Agreements • Spark Line Rental, Activity, 0800 &Other • Telecommunications Landline costs • Telecommunications WAN services costs • VDI rental costs • Vodafone Fixed and Mobile Costs • Cardax • Business Continuity-DR initiative • CCL WAN & Inter Data Centre Connectivity	**Review of revised allocator/CTO overhead allocator**: Corporate personnel is not a causal allocator for these costs. These costs relate to the whole business, whereas corporate personnel is a subset and excludes costs related to PSM, CNO and CTO. We note that in FY21 Chorus had a headcount of 817,[37] of this **[Chorus CI** [38]**]**. In the opex model we submitted, we used the corporate personnel allocator for corporate personnel costs and the property that they are based in. CTO overhead is an unsuitable allocator for most of these costs as they relate to the whole of Chorus rather than just the CTO business unit. In our modelling we have applied CTO overhead to capitalised labour costs, which many of these cost items are not highly correlated with. **Why totex is demonstrably reasonable:** As these systems support the whole of Chorus, utilisation is driven by the magnitude of overall expenditure as this reflects the degree of effort required to deliver that expenditure. It is reasonable for information systems to be driven by overall capex and opex. For example, projects incurring capex require data analysis, indicating that utilisation is partly driven by capex. Equally, ongoing operations require regular reporting, where utilisation is driven by opex. SAP usage is driven by both capex and opex. For HR functions, utilisation is partly driven by capex, evidenced by the existence of

[37] Chorus Annual Report 2021, page 81
[38] This includes permanent and fixed term staff only and excludes contractors.

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		capitalised labour. Opex also drives utilisation by supporting personnel cost which is driven by overall business effort. The inventory and spares management functions are driven by the expenditure they support – network build and operate – which totex reflects. The degree of effort required for the other shared systems/costs also relates to the magnitude of the expenditure they support – both capex and opex. For instance, Cardax is driven by site access to both build (capex) and operate (opex) the network. Site access to exchanges and offices is driven by capex as projects require personnel to complete them. Site access is also driven by BAU work which is reflected in the opex component of totex. Both classes of expenditure are important in this case, especially given the transition from UFB build to operate. **Alternative allocators considered:** 1. Totex for: SAP-ERP, Chorus Data Warehouse, Infosphere, BI feeds and Sharepoint Documents online. 2. CTO overhead for: Chorus Appln Maintenance, Business Continuity-DR initiative, Server-Desktop SW Licence Agreements, SSA Incentive Payments and Oracle License. 3. All Chorus staff cost for the remaining cost items. Our initial view is that these alternatives could approximate how costs are incurred more accurately than the Commission's draft revised allocator. However, totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss these further.

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
CTO - Project opex Note: allocator relates to the opex components (e.g. project initiation/discovery and project closure) across all the CTO projects in a given year.	• Programme Management	**Cost summary**: Programme management costs relate to a small portion of the Datacom Programme Management cost that is related to non-capex project admin. **Review of revised allocator/CTO overhead allocator**: Programme Management costs only reflect a small portion of CTO projects, so using "CTO - Project opex" does not align to what the work is actually spent on. **Why totex is demonstrably reasonable:** This cost is too immaterial to warrant its own causal allocator and therefore totex reflects a more consistent allocation. **Alternative allocator considered:** CTO Overhead Totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss this further.
Maintenance overhead Note: allocator relates to network maintenance overhead incurred in a given year.	• 5530 Network Analyser (Fibre and Copper)	**Cost summary**: Used for network installation and monitoring, primarily of end-user premises. This is used by Chorus staff, RSPs (via APIs) and technicians. **Review of revised allocator/CTO overhead allocator**: These costs are driven by technician (for installation and monitoring) and RSP (for monitoring) usage which is likely to coincide with the network rollout and installations and therefore unlikely to be causally driven by maintenance activity only (as maintenance activity does not include installations).

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		CTO overhead is an unsuitable allocator as it reflects the utilisation of the CTO business unit, which Network Analyser is not highly correlated with. **Why totex is demonstrably reasonable:** Totex is a more suitable allocator as: 1. It reflects the fact that some cost is incurred related to installations and therefore the effort is reflected in the capex portion of totex. 2. The ongoing effort related to monitoring are reflected in the opex portion of totex. 3. The intensity for which this system is used is reflected by the overall businesses effort which is reflected by totex. **Alternative allocator considered:** Service company overhead (which includes both installation and monitoring) Our initial view is that these alternatives could approximate how costs are incurred more accurately than the Commission's draft revised allocator. However, totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss these further.
Orders Note: allocator relates to new connect orders each year.	• Netcracker • Genesys and Call Centre Infrastructure	**Cost summary**: Netcracker is used not only for new installations but also to synchronise Assure schedules for customer faults. Call centres are used for general public queries about UFB and fault reporting; RSPs use it as an escalation channel; technicians use them for orders, faults and UFB build.

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		Review of revised allocator/CTO overhead allocator: Orders will understate the role of assure for Netcracker utilisation. The order allocator type does not reflect the broad use of call centres. Interactions with the public are more likely to be regarding UFB than copper services and will therefore understate the utilisation for FFLAS. CTO overhead is an unsuitable allocator as it reflects the utilisation of the CTO business unit rather utilisation caused by network build which is a key driver of queries related to UFB received by call centres. In the opex model we submitted we have generally applied CTO overhead to capitalised labour costs, which these costs items are not highly correlated with. **Why totex is demonstrably reasonable:** When compared to the order and CTO overhead allocator types, totex better reflects the likelihood that customer interactions are UFB related. Totex is also a reasonable proxy for the overall effort required to roll out the UFB network as it reflects our move from build to operate, resulting in FFLAS capex reducing while opex is increasing, which suggests totex is a better reflection of the mix of costs required. **Alternative allocators considered:** 1. For Netcracker: Service company overhead 2. For Genesys and Call Centre Infrastructure: CNO NPC overhead Our initial view is that these alternatives could approximate how costs are incurred more accurately than the Commission's draft revised allocator. However, totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss these further.

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
Revenue Note: allocator relates to contemporaneous revenue (ie revenue in a given year).	• Sales Management • Centrally managed channels costs • Singl.eView	**Cost summary**: Includes a range of systems which manage: 1. customer interactions, calls and escalations related to any request made of Chorus by consumers, RSPs or technicians; 2. New Property Development build process (largely fibre); 3. quality assurance for the network build process; 4. Managed Migrations capability to connect customers to UFB; 5. logging faults on copper and fibre products; 6. orders for layer 1 fibre products; and 7. customer billing. The chosen allocator needs to consider that the ongoing expenditure in PQP1 is only expected for Sales Management systems which focus on (1)-(4) above. **Review of revised allocator/CTO overhead allocator**: Revenue is not causal for all these cost items because a significant portion of these costs are related to the network and build, which will be incurred ahead of revenue. For example, quality assurance for network build occurs ahead of an end-user being connected and revenue being earned and therefore using revenue would result in under recovery of cost for FFLAS. CTO overhead is an unsuitable allocator as it reflects the utilisation of the CTO business unit rather than network build. Where we have used it as an allocator in the opex model we submitted, it was used to allocate capitalised labour costs, which these costs items are not highly correlated with. **Why totex is demonstrably reasonable:** Totex is a more suitable allocator for these costs as: 1. Some costs are related to network build and the effort is reflected in the capex portion of totex;

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		2. The ongoing effort related to customer interactions are reflected in the opex portion of totex; and 3. The intensity for which these systems are used is reflected by the overall businesses effort which is reflected by totex. **Alternative allocator considered:** 1. For Sales Management: Totex 2. For Centrally managed channels costs: Service company overhead 3. For Singl.eView: Revenue Our initial view is that in most cases these alternatives could approximate how costs are incurred more accurately than the Commission's draft revised allocator. However, totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss these further.
Service company overhead Note: allocator relates to expenditure on service companies, largely related to maintenance.	• ALU Configuration Service Fee • ALU Network Operations Service Fee • Datacom IT Services Management • Spark Non-Portfolio Charges • TMS Network management system • Internal Data Network Management System	**Cost summary**: Includes a range of costs, largely related to those provided by third parties. 1. ALU related costs: related to the network operations centre. They provide 24/7 tier 1 coverage on how our core REN and FAN networks are performing and alarm monitoring 2. Datacom IT Services Management: we have outsourced some processes for managing the health and care of all our IT 3. Spark Non-Portfolio Charges: Spark look after our hosted or shared IT while we establish replacement capability of our own over time; 4. TMS and Internal Data NMS: systems for activating services electronically, assure and change

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		Review of revised allocator/CTO overhead allocator: None of these costs are related to services provided by Service Companies. It appears the Commission is using service company overhead as the basis for allocating outsourced costs even though the latter are largely IT related while the former are related to network provisioning and maintenance. It's also possible that the Commission has chosen the allocator because the name of the systems include the words "service" or "overhead". Regardless, it is clearly neither justifiable nor demonstrably reasonable to use service company overhead to allocate costs provided by unrelated external companies. Therefore, service company overhead cannot be a causal driver for these cost items. CTO overhead is an unsuitable allocator for many of these costs as it reflects the utilisation of the CTO business unit rather than the range of uses across the whole business. Where we have used it in the model we submitted, we have used it to allocate capitalised labour costs. **Why totex is demonstrably reasonable:** As these costs relate to the to the whole of Chorus it is reasonable for the allocator to reflect the magnitude of overall expenditure, not just a subset. Totex more directly reflects the underlying effort and timing of costs incurred for the fibre network. These costs are used to support the delivery of expenditure, in the same sense that other overheads do which we note also use totex as an allocator. **Alternative allocators considered:** 1. CTO overhead for: Spark Non-Portfolio Charges and Datacom IT Services Management.

Commission draft revised allocator	Constituent WBS Descriptions	Chorus response
		2. Traffic for: ALU Network Operations Service Fee, ALU Configuration Service Fee, TMS Network management system and Internal Data Network Management System. Our initial view is that these alternatives could approximate how costs are incurred more accurately than the Commission's draft revised allocator. However, totex is more reasonable because overall expenditure drives the utilisation of these systems. This is particularly important during Chorus' UFB network build and the transition from build to operate. Our experts are available to discuss these further.
Overall approach / methodology	n/a	Using the steps outlined in the draft decision,[39] we have been unable to replicate the 39% calculation the Commission uses to apply the recipient business overhead allocator for CTO common cost allocation. Further discussions with the Commission would be required for us to understand the calculation and implement this in a compliant version of the opex model.

[39] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), 5.186.1, Table 5.8, 5.187-5.189, 5.191.

Appendix B: Summary of Chorus' responses

No.	Reference	Commission draft decision	Chorus response
Overall approach to the initial RAB and the FLA			
B1	3.3	Starting point for the draft decision is Chorus' submitted model as of 26 March 2021	Agree.
B2	3.4	Commission accepts cost and asset allocators Chorus has proposed in its model of 26 March 2021; and subject to any exceptions discussed in Chapter 6, accept the Chorus' model is IM compliant	Agree.
B3	3.5	$6b scenario is not objectively justifiable or demonstrably reasonable	Disagree. Refer to section *$6b RAB estimate* above.
B4	3.7	Applying the TERA cross-check proposed by Spark is not practical.	Agree.

No.	Reference	Commission draft decision	Chorus response
Unallocated RAB and direct attribution			
B5	4.2.1	All UFB asset classes, except UFB duct and manhole assets, should be directly attributable to UFB FFLAS	While we agree in principle, we disagree with the separate treatment of UFBA-D duct and manhole assets. Refer to section *Attribution and cost allocation* above.

No.	Reference	Commission draft decision	Chorus response
B6	4.2.2	UFB duct and manhole assets are likely to be shared between UFB FFLAS and non-UFB FFLAS	Disagree. Refer to section *Attribution and cost allocation* above.
B7	4.2.3	95% of UFB ducts and manholes are allocated to UFB FFLAS and 5% is capable of sharing	Disagree. Refer to section *Attribution and cost allocation* above. We have been unable to replicate this in Chorus' model based on the description in the draft decision, and seek clarification if the Commission's intent was to only apply to ducts.
B8	4.2.4	Revenue-based allocators applied to the 5%	Disagree. Refer to section *Attribution and cost allocation* above.

No.	Reference	Commission draft decision	Chorus response
Cost allocation			
B9	5.7.1	Chorus' application of the two-step cost allocation process is suitable.	Agree.
B10	5.8.1/ 5.8.2/ 5.48.1	Approve the use of future benefit allocator type under clause B1.1.6(1)(c)(x) and for PQP1 opex allocation, however forward-looking revenues are over 8 years.	Agree with the Commission's draft decision for the allocator type but remain of the view twelve years is more appropriate. Refer to section *Attribution and cost allocation* above.
B11	5.8.3/ 5.8.4/ 5.48.2	Approve the use of net book value (**NBV**) allocator type under clause B1.1.6(1)(c)(x) and for PQP1 cost allocation.	Agree.

No.	Reference	Commission draft decision	Chorus response
B12	5.8.5/ 5.8.6/ 5.48.3	Approve the use of recipient business overhead function allocator type under clause B1.1.6(1)(c)(x) and for PQP1 cost allocation.	Agree.
B13	5.8.7/ 5.8.8/ 5.48.5	Approve the use of the total expenditure (**totex**) allocator type under clause B1.1.6(1)(c)(x) and for PQP1 cost allocation but remove infrastructure rates from the calculation.	Agree with the Commission's draft decision to approve totex allocator type but disagree with the decision to exclude infrastructure rates from the calculation pre-implementation and pass-through costs post-implementation.
B14	5.8.9	Change the allocation of "CTO Common Costs" from being solely (100%) based on totex to a split of 61% allocated via totex and 39% allocated via a recipient business allocator type.	Disagree. Refer to section *Attribution and cost allocation* above.
B15	5.8.10/ 5.48.6	Approve the use of the "shared ISAM" allocator type.	Agree.
B16	5.8.11/ 5.48.7	Approve the use of the "shared with copper, fibre cable" allocator.	Agree.
B17	5.8.12/ 5.48.8	Approve the use of a set of proxy allocators that closely resemble causal allocation.	Agree. We have interpreted these as the allocators listed in Annex A of the Opex Model documentation which are noted as "Causal in the opex model" or "Causal" and requiring approval under B1.1.6(1)(c)(x).

No.	Reference	Commission draft decision	Chorus response
B18	5.41	Exclude infrastructure rates from the totex allocator value pre-implementation and all pass-through costs post-implementation.[40]	Disagree. The Commission's rationale is that pass-through costs do not support FFLAS or non-FFLAS services and therefore do not drive costs. However, pass-through costs, including infrastructure rates, should be included in the totex allocator calculation as they drive business activity (for example administration) and therefore drive cost. Infrastructure rates are drivers of effort in the business – they relate to costs paid to use land for network assets (e.g. ducts) and are equivalent to paying rent for land use. As a counterfactual, if we were not paying these costs as infrastructure rates, we would be incurring the costs directly.

No.	Reference	Commission draft decision	Chorus response
Other inputs into the financial loss asset			
B19	6.7	Use vanilla WACC instead of post-tax WACC to calculate FLA.	Agree. Refer to *Time value of money and tax losses* section above.
B20	6.53	Apply the vanilla WACC estimates as the relevant DCF compounding rates for the calculation of the FLA in our draft decision	Agree
B21	6.55	Accept Chorus' calculation for the UFB cost allocation adjustment cashflow	In principle, we agree. Note that Allocated VCA in the Commission's proposal also implicitly requires Allocated NBV adjustments (including the effects of disposals).

[40] Commerce Commission, Chorus' initial regulatory asset base as at 1 January 2022 – Draft Decisions (19 August 2021), at 5.174

No.	Reference	Commission draft decision	Chorus response
			Preferable thing to do is to do the calculation asset class by asset class, as we do in the Chorus' initial RAB model. In this calculation the asset class allocation factors are an input to the calculation. Rather than calculate the cost allocation adjustment based on an approach which is both multiplying and dividing by Unallocated RABSOP, it would be possible to restate the entire calculation of cost allocation adjustment cashflow as either: - Using our approach, the cost allocation adjustment is Allocated RABSOP(P+1)-Allocated RABEOP(P) (the Commission can't do that because it defined allocated RABEOP differently); or - Avoiding complexities relating to definition of allocated RABEOP, Allocated RABSOP(P+1)-(Allocated RABSOP(P)+Allocated VCA(P) (+Allocated NBV Adjustments(P)) -Allocated Depreciation(P)).
B22	6.68	Amending the formula for revenue date compounding factor	Agree, the Commission adopting the calculation from Chorus' initial RAB model. However the proposed drafting is not sensible as regards the rounding. *To reflect our intended formula, we have proposed amending the formula for "revenue date compounding factor" as specified in clause B1.1.2(7)(b) of Schedule B from:* *the 20th day of the month following the month in which the day that is the mid-point of the financial loss year falls* *to:* *the day of the month that is calculated in accordance with the formula-*

No.	Reference	Commission draft decision	Chorus response
			final day of the applicable "financial loss year" – (days in the applicable "financial loss year"/2) + 34 *where:* *"days in the applicable "financial loss year"" is rounded down to the nearest whole number* The rounding is not needed on "days in the applicable "financial loss year" (which is after all always an integer), but on the quantity in brackets: (days in the applicable "financial loss year"/2). Rounding down moves the assumed revenue fractionally later, decreasing the time between that date and end of year. This fractionally changes the revenue date timing factors and the resulting revenue date MAR, but by one day of WACC at the most (i.e. it can't be material).
B23	6.92	Capital contributions, while non-compliant, Chorus' approach results in a substantially similar outcome.	Agree, the Commission adopting the approach from Chorus' initial RAB model.
B24	6.101	NBV adjustments, while non-compliant, Chorus' approach results in an economically equivalent outcome.	Agree, the Commission adopting the approach from Chorus' initial RAB model.
B25	6.111	VCA not recorded as a separate asset, while non-compliant, Chorus' approach results in an economically equivalent outcome.	Agree, the Commission adopting the approach from Chorus' initial RAB model.
B26	6.116	Present value benefit of Crown financing drawdown formula, while non-compliant,	Agree with general proposal, however note:

No.	Reference	Commission draft decision	Chorus response
		Chorus' approach results in an economically equivalent outcome.	- Para 6.113, the detailed explanation of the issue is not quite right (the proportion A is undefined if B is zero). - Para 6.114 there is a missing pair of brackets in the formula it says we use. It should be: *=((senior debt drawdown*annual cost of senior debt) + (subordinate debt drawdown*annual cost of subordinate debt))*(1-TaxRate) + (debt-like equity drawdown*annual cost of debt-like equity)+(other equity drawdown*annual cost of other equity)*