RESPONSE TO INFORMATION NOTICE

This document summarises Chorus' response to the section 221 Information Notice issued by the Commission on 28 February 2023. Part A contains short form responses and Part B contains long form responses.

Introduction and context

This document collates responses to the Commission's 28 February 2023 Information Notice. It maps where we have addressed the requests (complying with requirement A5.1) and includes direct responses to requirements which do not naturally fit within the body of our PQP2 proposal documents, including interpretation, assumptions and explanation of responses.

The Commerce Commission issued a notice to supply information under section 221 of the Telecommunications Act 2001 (Act) on 28 February 2023 (Notice) requiring Chorus Limited (Chorus) to provide certain information in relation to our base capital expenditure, connection capex baseline expenditure and operating expenditure proposals (Proposal) for fibre fixed line access services (FFLAS).

In most cases, we have built the Notice requirements directly into the main Proposal documents, primarily Our Fibre Plans, Our Fibre Assets or the Modelling and Cost Allocation Report.

This document references where those requirements are addressed and collates responses to the Notice which have not been addressed elsewhere in our Proposal.

We have grouped our responses in this document under the main headings used by the Commission in Attachment A of the Notice, and have included interpretation, assumptions and explanations of responses where relevant.

Part A – Short form responses

TABLE A.1: SHORT FORM RESPONSES

IR REF	INTRODUCTION AND INTERPRETATIONS	
A1-A3	Requirements A1-A3 are acknowledged but require no direct responses.	

IR REF	SUMMARY INFORMATION	
A4	Where Chorus provides any financial information other than in regulatory templates, it must: • A4.1 identify whether this information is provided in nominal terms or constant-price terms; and • A4.2 state the base year (where applicable).	
	Response/ Reference	Throughout the proposal documents, all tables and charts clearly state their basis of preparation. The Introduction to Our Fibre Assets (document reference - C.PQP2.04) contains explanations of our general conventions. We have used 2022 as our base year throughout the Proposal, with reasons for this documented within relevant sections of the Proposal (section 11.4.2 of the Opex Insights chapter of Our Fibre Assets in particular).
A5	Provide a summary document that: • A5.1 lists the name of each file provided in response to the requirements set out in this notice and a brief description of the information each file contains. • A5.2 shows where the Commission can find the information provided by Chorus in response to each requirement set out in this notice; and • A5.3 includes a glossary of key terms used by Chorus in its response to this notice where the terms are not defined in this notice or the IM Determination.	
	Response/ Reference	Our Document List (C.PQP2.03) and Glossary (C.PQP2.02) cover both the main proposal documents and requirements, as well as responses to the Notice. Please read these in conjunction with this document.
A6	Provide a summary of the parts of **Chorus**' company structure that are involved in the delivery of PQ FFLAS, including current company structure map, current organisation chart, and any confirmed material changes.[1]	
	Response/ Reference	Requirement A6 is addressed in Part B of this document, response B1 (along with the full requirement; the above is summarised for presentational purposes).

1 Requirement summarised. Full requirement detailed in response B1 in Part B of this document.

IR REF	OVERALL EXPENDITURE INFORMATION	
A7	Provide the following information: • A7.1 Chorus' asset management policy; and • A7.2 Chorus' strategic asset management plan.	
	Response/ Reference	Both documents have been provided separately as part of the proposal submission: • Chorus' asset management policy – C.PQP2.19 • Chorus' strategic asset management plan - C.PQP2.17
A8	Provide Chorus' integrated fibre plan, as required by clause 3.7.7 of the IM Determination.	
	Response/ Reference	Our Fibre Plans (C.PQP2.01) and Our Fibre Assets (C.PQP2.04) collectively make up our integrated fibre plan.
A9	Provide a description of: • A9.1 the processes Chorus uses to plan, deliver, maintain, and operate Chorus' fibre assets, including the assets associated with the proposed base capex and proposed connection capex; and • A9.2 Chorus' fibre network(s), including a geographical representation, and connection numbers by region.	
	Interpretation/ assumptions/ explanation	Given the scale of our network, we have provided a simplified geographical representation and summarised connection numbers by region.
	Response/ Reference	Our response to A9.1 is contained within the Delivery chapter of Our Fibre Plans. Our response to the geographical representation part of A9.2 can be found in section 4.3 of the Our Network chapter of Our Fibre Assets. And connection numbers by region can be found in section 3.14 (Appendix C) of the Demand chapter of Our Fibre Plans.
A10	Provide a description of the external and internal drivers that materially impact or influence Chorus' proposed base capex, proposed connection capex and proposed opex. The explanation must, to the extent relevant, include: • A10.1 how Chorus' business strategy is reflected in the proposed base capex, proposed connection capex, and proposed opex; • A10.2 how and where Chorus' asset management strategies are reflected in proposed base capex, proposed connection capex and proposed opex; • A10.3 where quality is a key driver for the proposed expenditure; and • A10.4 an explanation of material linkages and trade-offs between proposed opex and proposed base capex, proposed connection capex, quality or other outcomes	

IR REF	OVERALL EXPENDITURE INFORMATION	
	Interpretation/ assumptions/ explanation	Where relevant, within our expenditure chapters in Our Fibre Assets, we have discussed internal and external drivers, including the specific factors within this requirement. The response below provides further top-down context to accompany the narratives in Our Fibre Assets.
	Response/ Reference	• A10.1 Business strategy: Our base capex and connection capex baseline proposal is based on Chorus' annual 10-year planning cycle, which in turn is based on the agreed corporate strategy, including prioritisation of various investment initiatives. This is detailed in particular within the Overview and Governance chapters of Our Fibre Plans, as well as the Proposal Insights chapter and expenditure chapters of Our Fibre Assets. • A10.2 Asset management strategies: Our Strategic Asset Management Plan (SAMP) (C.PQP2.17) outlines our approach to asset management strategy, which is also reflected in the 10-year plan, on which the PQP2 Proposal is based. Please also refer to the Asset Management chapter of Our Fibre Assets. • A10.3 Quality: Please refer to the Quality chapter within Our Fibre Plans for a more comprehensive understanding of how quality drives our expenditure. Each expenditure chapter in Our Fibre Assets also includes an assessment of its interdependencies with quality. • A10.4 Material linkages and trade-offs between outcomes: where relevant, material trade-offs and linkages are discussed in the relevant expenditure chapters (Links and synergies section) within Our Fibre Assets. High level linkages are highlighted through the Proposal Insights chapter in Our Fibre Assets.
A11	Provide an explanation of where and how Chorus considers the proposed base capex, proposed connection capex, or proposed opex is likely to materially impact competitive dynamics or outcomes.	
	Response/ Reference	We have provided a summary response within section 2.5 of the Proposal Insights chapter of Our Fibre Assets. However, please also refer to Part B of this document, response B2.
A12	Provide a description of the legislative obligations that materially affect the proposed base capex, proposed connection capex, and proposed opex.	
	Response/ Reference	We have provided a summary response within section 2.6 of the Proposal Insights chapter of Our Fibre Assets and a full response in Part B of this document, response B3.

IR REF	OVERALL EXPENDITURE INFORMATION	
A13	Provide an explanation of the trends and underlying causes or drivers for the trends in the historical expenditure, PQP1 expenditure, proposed base capex, proposed connection capex and proposed opex, including any material differences between historical expenditure and forecast expenditure.	
	Response/ Reference	Please refer to each expenditure chapter within Our Fibre Assets. The Proposal Insights chapter section 2.2 also provides a high-level summary.
A14	Provide Chorus' capital contributions policy that applies to the proposed base capex and proposed connection capex.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report (C.PQP2.09), Capital contributions section.
A15	Provide a list and description of Chorus' policies, strategies, other management frameworks, and risks assessments that materially influence the proposed base capex, proposed connection capex and proposed opex, including where relevant to each expenditure sub-category.	
	Interpretation/ assumptions/ explanation	Where relevant, within our expenditure chapters in Our Fibre Assets and Our Fibre Plans, we have discussed policies, strategies, other management frameworks and risk assessments that materially influence the expenditure sub-categories. The response in this document provides further top-down context to accompany the narratives in the main proposal.
	Response/ Reference	Please refer to Part B of this document, response B4.
A16	Provide an explanation of the basis for Chorus' forecast insurance (including self- insurance), including with reference to relevant company policies and external advice.	
	Response/ Reference	Our insurance programme essentially replicates Telecom's programme at demerger (but with lower limits reflecting the smaller size of stand-alone Chorus). Additionally, in 2016, Aon Risk Consulting completed an insurable risk review and gap analysis to ensure that all insurable risks were identified, and that adequate insurance cover was in place. Other than inclusion of a cyber risk policy, the insurance programme has remained substantially unchanged. The majority of self-insurance (89%) is driven by the policy limits and exclusions of insured assets so there is limited scope for it to increase external insurance coverage. For the remaining self-insurance (11%), we retain a liability in respect of losses on assets that are not insured i.e. losses on uninsured assets where we have assessed the insurable risk as being low. We have identified underground cables and associated ducts outside of the four CBD areas covered by external insurance policy as the only significant fibre-related uninsured risk.

IR REF	OVERALL EXPENDITURE INFORMATION	
		Aon's actuarial report for self-insurance for the PQP2 proposal is included along with our submission – C.PQP2.24. Please also refer to chapters Opex Insights (section 11.4.2), and Support Opex (section 14.3.3) in Our Fibre Assets for more information on how this has been applied to our forecast.

IR REF	PROPOSAL GOVERNANCE	
A17	Provide an explanation of the governance process used in developing the proposed base capex, proposed connection capex and proposed opex. The explanation must include: • A17.1 a description of the approval process Chorus used for adopting the proposed base capex and proposed connection capex, including milestones that have been passed in respect of Chorus' internal governance and approval policies; • A17.2 the extent of reviews undertaken to ensure the quality and accuracy of the material incorporated within the proposals; and • A17.3 what internal or external challenge rounds were undertaken, the changes that resulted from such challenges, and which staff (by role) were involved in the challenge rounds.	
	Response/ Reference	A17 is addressed through the Governance chapter of Our Fibre Plans.

IR REF	CONSULTATION	
A18	Provide a detailed explanation of: • A18.1 the stakeholder consultation and engagement Chorus has undertaken on proposed base capex, proposed connection capex, and proposed opex, its effectiveness and its impact on proposed base capex, proposed connection capex, and proposed opex; and • A18.2 how and where any feedback received as a result of the consultation has been incorporated into, and what impact it has had on the proposed base capex, proposed connection capex, and proposed opex.	
	Response/ Reference	A18 is addressed through the Engagement chapter of Our Fibre Plans, as well as drawn out in any relevant expenditure chapters in Our Fibre Assets.

IR REF	DELIVERABILITY AND PROCUREMENT
A19	Provide an explanation of: • A19.1 the strategy, approach, and plans for how Chorus expects to resource and deliver the proposed base capex, proposed connection capex, and proposed opex, including key assumptions regarding deliverability; • A19.2 key risks associated with delivering the levels of proposed base capex, proposed connection capex, and proposed opex including for each risk: • A19.2.1 its potential impact on expenditure and outcomes, including quality;

IR REF	DELIVERABILITY AND PROCUREMENT	
	• A19.2.2 planned mitigations. • A19.3 the procurement process for outsourced services, including an explanation of the extent to which the process will involve competitive bidding, and if not, why not; and • A19.4 details of service level agreements and associated incentive arrangements in service company contracts, including but not limited to those that impact on PQ FFLAS quality outcomes.	
	Response/ Reference	A19.1-3 is addressed through the Delivery chapter of Our Fibre Plans. For A19.4, extracts from our Field Services Agreement showing our SLAs and associated incentive arrangements are set out in document D5. Extracts from Field Services Agreement (C.PQP2.25)

IR REF	COST AND EFFICIENCY	
A20	Provide an explanation and evidence demonstrating if, and how Chorus has, in relation to proposed base capex, proposed connection capex, and proposed opex: • A20.1 pursued, and is pursuing, process improvements that led or will lead to cost efficiencies and reduce expenditure; • A20.2 the impact that any process improvements that have or will led to trade- offs between proposed base capex, proposed connection capex, and or proposed opex; • A20.3 ensured and is seeking to ensure appropriate least whole-of-life cost and efficiency improvements; • A20.4 pursued and is pursuing cost reduction strategies for its projects and programmes; and • A20.5 ensured and is seeking to ensure that both internal and external suppliers of goods and services have incentives to perform well and to identify cost savings.	
	Response/ Reference	Refer to the 'Efficiency' section (2.7) in the Proposal Insights chapter of Our Fibre Assets. With regard to trade-offs (requirement A20.2), please also refer to relevant expenditure chapters in Our Fibre Assets. For suppliers (requirement A20.5), please refer to the Delivery report in Our Fibre Plans (section 5.3.4 in particular).
A21	Provide a description and explanation of any efficiency assumptions that Chorus has applied in any of its proposed base capex, proposed connection capex, and proposed opex.	
	Response/ Reference	Refer to the 'Efficiency' section (2.7) in the Proposal Insights chapter of Our Fibre Assets

IR REF	LINKS BETWEEN EXPENDITURE PROPOSALS AND FINANCING
A22	Provide: • A22.1 a summary of Chorus' strategies for dividends and debt management applicable to PQP2; • A22.2 an explanation of how Chorus' strategies for dividends and debt management are consistent with the equivalent information available to Chorus's external stakeholders immediately prior to Chorus submitting its base capex proposal, connections capex baseline proposal and opex proposal;

IR REF	LINKS BETWEEN EXPENDITURE PROPOSALS AND FINANCING	
	• A22.3 an explanation of how Chorus' strategy for dividends and debt management are consistent with proposed base capex, proposed connection capex, and proposed opex; and • A22.4 if Chorus makes assumptions in its responses to A22.1-A22.3 above that differ from its standard corporate modelling, describe those assumptions.	
	Response/ Reference	Refer to the Part B of this document, response B5.

IR REF	BASE CAPEX – GENERAL INFORMATION	
A23	For each base capex sub-category, provide a list of the models Chorus used to determine the proposed base capex and a description of how Chorus has used those models.	
	Response/ Reference	Refer to Appendix C within the Modelling and Cost Allocation Report.
A24	If applicable, provide an explanation of the rationale for opting to include any non-linear connection costs in proposed base capex rather than proposed connection capex, including the value of such costs.	
	Response/ Reference	Refer to section 10.2.3, Connection Capex chapter, of Our Fibre Assets.

IR REF	BASE CAPEX – NON-PRIORITY SUB-CATEGORIES	
A25	For each base capex sub-category that is not a priority base capex sub-category, provide a high-level description of: • A25.1 key drivers, outputs and outcomes Chorus is targeting, including in relation to quality (where applicable); • A25.2 the expenditure forecasting approach used; • A25.3 key forecasting assumptions; and • A25.4 material risks.	
	Response/ Reference	Refer to relevant expenditure chapters within Our Fibre Assets.

IR REF	PRIORITY BASE CAPEX SUB-CATEGORIES
A26	For each priority base capex sub-category, provide a detailed explanation of: A26.1 the need for the proposed expenditure; • A26.2 outputs and outcomes Chorus is targeting, including any material impact on quality; • A26.3 processes relevant to planning and delivery, and the milestones that have been passed in respect of Chorus' internal governance and approval policies;

IR REF	PRIORITY BASE CAPEX SUB-CATEGORIES	
	• A26.4 applicable asset lifecycle management objectives and strategies; • A26.5 the forecast methodology and models used, why they are appropriate and the extent to which they incorporate a risk-based approach; • A26.6 input data used, including information on data quality and vintage; • A26.7 key assumptions, with supporting reasons and analysis of associated uncertainty (including in quantitative terms) and the impact of that uncertainty; • A26.8 key risks, with impacts and planned mitigations; • A26.9 sensitivity analysis used to test the proposed expenditure; • A26.10 alternatives to the proposed expenditure that were considered; • A26.11 economic analysis used to test the merits of the proposed expenditure; • A26.12 the anticipated impact of the proposed expenditure on proposed connection capex and opex; and • A26.13 any efficiency assumptions that Chorus has applied in the proposed base capex.	
	Interpretation/ assumptions/ explanation	To the extent relevant, requirements of A26 have been addressed in the expenditure chapters of Our Fibre Assets. We have assumed a response is only required where relevant - e.g. uncertainties are only discussed where there is a recognised uncertainty. For requirements A26.5, A26.9 and A26.11, we have only referred in Our Fibre Assets to risk-based approaches, sensitivity and economic analysis to the extent we have used such analysis in forecasting expenditure in each sub-category. For requirement A26.13 also refer to the 'Efficiency' section (2.7) in Proposal Insights chapter of Our Fibre Assets.
	Response/ Reference	Sensitivity and economic analyses has been part of our capex forecasting process for the following areas: • Customer Incentives (within Standard Installations capex, section 6.6.6), • ONTs (within Standard Installations and Access capex, and discussed in the standalone ONT Deployment Strategy chapter, section 16.13), • Fibre Frontier capex (within Extending the Network capex and the Fibre Frontier chapter, section 15.9) and • Demand forecasting (in several places in Demand chapter e.g. Figure 3.16)
A27	Provide an explanation of how Chorus has taken a risk-based approach in developing the forecast in each proposed base capex sub-category.	
	Interpretation/ Assumptions/ Explanation	Our assumption has been to only refer in Our Fibre Assets to risk-based approaches to the extent we have used such approaches in forecasting expenditure in each sub-category.
	Response/ Reference	Refer to expenditure chapters in Our Fibre Assets. The main areas where a risk-based assessment is used to inform forecasting is within Network Sustain and Enhance, Network Capacity, and our IT expenditure.
A28	Provide a sample of business cases (where applicable) for projects or programmes within each priority base capex sub-category.	

IR REF	PRIORITY BASE CAPEX SUB-CATEGORIES	
	Interpretation/ Assumptions/ Explanation	We interpret this requirement as seeking business cases for investments within the PQP2 period. Chorus does not complete 'business cases' until close to the time the investment is going to be made.
	Response/ Reference	At the forecast stage, the most advanced business case is our Fibre Frontier one. Fibre Frontier is our most significant new investment for PQP2 and we have provided a significant amount of business case-type analysis and explanation as part of the Fibre Frontier chapter within Our Fibre Assets.

IR REF	CONNECTION CAPEX - SPECIFIC INFORMATION	
A29	For each connection type or connection sub-type (as appropriate) provide an explanation of: • A29.1 associated assets and cost components; • A29.2 why the connection type is an appropriate grouping of connection sub-types; • A29.3 any material impact of proposed expenditure on quality; • A29.4 the approach used to forecast volumes and unit costs, including for non-linear connection costs; • A29.5 governance processes relevant to planning and delivery; • A29.6 applicable asset lifecycle management objectives and strategies; • A29.7 the forecast methodologies and models used, why they are appropriate and the extent to which they incorporate a risk-based approach. The explanation of the models should include a list of the models used by Chorus to determine the proposed connection capex; • A29.8 input data used, including information on data quality and age; • A29.9 key assumptions, with supporting evidence and analysis of associated unit cost uncertainty in quantitative terms if applicable, including capital contribution assumptions; • A29.10 assumptions regarding PQ FFLAS pre-installations, and the impact of these assumptions on proposed connection capex and proposed base capex; • A29.11 key risks, with impacts and planned mitigations; • A29.12 sensitivity or impact analysis used to test the proposed expenditure; • A29.13 alternatives to the proposed expenditure that were considered; • A29.14 economic analysis used to test the merits of the proposed expenditure; and • A29.15 the anticipated impact of the proposed expenditure on proposed base capex and opex.	
	Interpretation/ Assumptions/ Explanation	Requirement A29.10 refers to 'pre-installations', which is not a term used by Chorus. The Commission clarified in this instance it intends pre-installations to mean the same as 'intact' connections. The Commission assumes that intact connections are typically the full lead-in connection including the ONT, but states it would be useful to understand if that is not always the case and any assumptions Chorus has made when responding to this requirement. We have responded to this requirement on the basis that it is referring to expenditure relating to intact connections. Chorus forecasts capex on a total capex basis and then subsequently calculates connection capex. We have therefore written our expenditure chapters on a total capex basis. When reviewing the Standard Installations chapter in particular, note the chapter is talking about both base and connection capex.

IR REF	CONNECTION CAPEX - SPECIFIC INFORMATION	
	Response/ Reference	• A29.1 is partially explained in the Connection Capex chapter of Our Fibre Assets with reference to cost groups (section 10.2.1). However, please also refer to the Standard Installations chapter of Our Fibre Assets for a more fulsome description of underlying costs and assets. • A29.2 – refer to Connection Capex chapter within our Fibre Assets (section 10.2.1). • A29.3 – A29.9 are answered within the Installations chapter of Our Fibre Assets. A brief summary and cross-reference are also included at the back of the Connection Capex chapter (sections 10.2.4 and 10.4). • A29.10 - Intacts do not meet our understanding of the definition of connection capex in the IMs and therefore there are no intact connections within the connection capex forecast. All expenditure relating to intact connections is contained within the base capex forecast. • A29.11-A29.15 – please refer to the Standard Installations chapter of Our Fibre Assets, as well as our corresponding responses and caveats to the equivalent base capex requirements within this notice (requirements A26 and A27).
A30	For proposed non-linear connection costs (if any), provide an explanation of: • A30.1 the proposed non-linear connection cost function and its derivation; • A30.2 how Chorus has ensured those costs are not also included in proposed base capex or other connection capex.	
	Response/ Reference	Refer to section 10.2.3 of the Connection Capex chapter within Our Fibre Assets.

IR REF	OTHER SPECIFIC INFORMATION (CAPEX) – INDIVIDUAL CAPEX	
A31	Provide an overview of any individual capex proposals that Chorus is considering proposing prior to or during PQP2.	
	Response/ Reference	Chorus is not currently planning to submit any individual capex proposals (ICPs) at the date of finalising this response. All our planned investment has been included within the PQP2 proposal. We do refer to circumstances where uncertainties may lead us to submit ICPs. Please refer to the IT & Support capex (9.3.4), ONT Deployment Strategy (16.4.1) and Fibre Frontier (15.10) chapters of Our Fibre Assets.

IR REF	OTHER SPECIFIC INFORMATION (CAPEX) – CAPITALISATION OF COSTS	
A32	Provide a summary of Chorus' approach for capitalising labour costs and any other costs Chorus capitalises.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report, Appendix A.
A33	Provide a quantitative demonstration that Chorus proposed base capex, connection capex, and opex do not (in aggregate) double-count capitalised costs.	

IR REF	OTHER SPECIFIC INFORMATION (CAPEX) – CAPITALISATION OF COSTS	
	Response/ Reference	Refer to the Part B of this document, response B10.

IR REF	OPEX INFORMATION – GENERAL INFORMATION - OPEX	
A34	Provide a list of the models Chorus used to determine the proposed opex and a description of how Chorus has used each of them when forecasting the proposed opex for each opex sub-category.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report, Appendix C.

IR REF	OPEX INFORMATION – INFORMATION ON OPEX NON-PRIORITY SUB-CATEGORIES	
A35	For each opex sub-category that is not a priority opex sub-category, provide a high-level description of: • A35.1 key outputs and outcomes Chorus is targeting, including in relation to quality (if applicable); • A35.2 the expenditure forecasting approach used; • A35.3 key forecasting assumptions; and • A35.4 material risks associated with that opex sub-category.	
	Response/ Reference	Refer to relevant expenditure chapters within Our Fibre Assets.

IR REF	OPEX INFORMATION – INFORMATION ON PRIORITY OPEX SUB-CATEGORIES
A36	For each priority opex sub-category, provide an explanation of: • A36.1 the need for the proposed expenditure; • A36.2 outputs and outcomes Chorus is targeting, including any material impact on quality; • A36.3 relevant governance processes, including milestones that have been passed in respect of Chorus' internal governance and approval policies; • A36.4 the forecast methodology and models used, and why they are appropriate; • A36.5 input data used, including information on data quality and vintage; • A36.6 key assumptions, with supporting reasons and analysis of associated uncertainty (including in quantitative terms if applicable) and the impact of that uncertainty; • A36.7 key risks, with impacts and planned mitigations; • A36.8 sensitivity analysis used to test the proposed expenditure; • A36.9 the anticipated impact of the proposed expenditure on the proposed connection capex and proposed base capex. The explanation should include: ○ A36.9.1 the detail of any quantitative or economic analysis undertaken to establish or influence the proposed opex; ○ A36.9.2 identification of any efficiency assumptions that Chorus has applied in the proposed opex; and

IR REF	OPEX INFORMATION – INFORMATION ON PRIORITY OPEX SUB-CATEGORIES	
	○ A36.9.3 any factors driving a material change in the proposed opex for each opex sub-category from the opex incurred in PQP1.	
	Interpretation/ Assumptions/ Explanation	To the extent relevant, requirements of A36 have been addressed in the expenditure chapters, including the Opex Insights chapter, within Our Fibre Assets. We have assumed a response is only required, where relevant. E.g. uncertainties are only discussed where there is a recognised uncertainty. For requirements A36.8 and A36.9.1, our assumption has been to only refer in Our Fibre Assets to sensitivity, quantitative and economic analysis to the extent we have used such analysis in forecasting expenditure in each sub-category.
	Response/ Reference	We have produced the forecast on a base-step-trend (BST) basis. More information about the methodology and judgements can be found in the opex chapters of Our Fibre Assets, as well as the Modelling and Cost Allocation Report, Opex regulatory forecast development section, and Appendix D. Assessing the approach to trends, in particular, has involved sensitivity, quantitative and economic analysis. Please refer to the descriptions in the Opex Insights chapter (11.2 and 11.3) of Our Fibre Assets. The Proposal Insights chapter in Our Fibre Assets also contains some high-level discussion of trends (A36.9.3), linkages (A36.2 and A36.9.3), and efficiencies (A36.9.2). Opex follows the same governance processes (A36.3) as described in the Governance chapter of Our Fibre Plans.

IR REF	COST ESCALATORS AND FOREIGN EXCHANGE ASSUMPTIONS	
A37	For any cost escalator used in the base capex proposal, connection capex baseline proposal or opex proposal, provide a description of: • A37.1 the cost escalator and the rationale for its use; • A37.2 the methodology used to forecast movement of the cost escalator, including the inputs and assumptions used; and • A37.3 the weighting given to the cost escalator, and how the weighting was determined.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report – • Cost escalation section • CPI adjustment section • RPE adjustment section
A38	Provide any consultant reports used in developing cost escalator forecasts.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report (section references as above in response to A37) and NZIER report (C.PQP2.21) provided with proposal submission.
A39	For any foreign exchange rate adjustments used in the base capex proposal, connection capex baseline proposal or opex proposal, provide: • A39.1 historical and forecast (as applicable) foreign exchange rates, and the source of those rates; and	

IR REF	COST ESCALATORS AND FOREIGN EXCHANGE ASSUMPTIONS	
	• A39.2 forecast exposure to exchange rate movements for each currency for each regulatory year of PQP2, and an explanation of how those exposures were estimated.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report, Foreign currency based costs section, and Regulatory Templates (RT02 in particular (C.PQP2.06)).

IR REF	REGULATORY TEMPLATES	
A40	Provide quantitative information regarding the base capex proposal, connection capex baseline proposal, and opex proposal in the regulatory templates that: • A40.1 meets the minimum content and format requirements set out in Attachment C; and • A40.2 applies the base capex sub-categories, connection capex types, and opex subcategories in Attachment B	
	Response/ Reference	Refer to Regulatory Templates (C.PQP2.05-08).
A41	Where Chorus considers information that must be provided in a regulatory template to be confidential, provide versions of the regulatory template both with and without the confidential information.	
	Response/ Reference	Refer to Regulatory Templates (C.PQP2.05-08).

IR REF	COST ALLOCATION – GENERAL REQUIREMENTS FOR OPEX AND CAPEX COST ALLOCATION	
A42	Provide an overview (including a graphical illustration) of the process and key assumptions Chorus used for allocating costs that are directly attributable to PQ FFLAS and opex and asset values that are not directly attributable to PQ FFLAS in the proposed base capex, proposed connection capex, proposed individual capex (if any) and proposed opex.	
	Response/ Reference	Refer to Modelling and Cost Allocation Report, Cost allocation section, reference footnotes for guidance
A43	Provide an explanation of what internal or external review has been undertaken as part of the allocation process (e.g. of key assumptions and models).	
	Response/ Reference	Refer to Modelling and Cost Allocation Report, Cost allocation section, reference footnotes for guidance
A44	Provide the following for proposed base capex, proposed connection capex, and proposed opex: • A44.1 the allocator types, cost allocators, asset allocators and allocator values Chorus used for each PQP2 regulatory year, including whether the cost allocators and asset allocators applied are based on a causal relationship or a proxy cost allocator; • A44.2 a summary of instances where the same allocator types have been applied:	

IR REF	COST ALLOCATION – GENERAL REQUIREMENTS FOR OPEX AND CAPEX COST ALLOCATION
	○ A44.2.1 for similar expenditure types; and ○ A44.2.2 across time for a given expenditure type; • A44.3 a summary of instances where different allocator types have been applied: ○ A44.3.1 for similar expenditure types; and ○ A44.3.2 across time for a given expenditure type; • A44.4 an explanation of how: ○ A44.4.1 any proposed proxy cost allocators or proposed proxy allocators that were not used to determine PQP1 expenditure allowances, meet the 'objectively justifiable and demonstrably reasonable' test in the IM Determination; and ○ A44.4.2 any proxy cost allocators or proxy allocators that were used to determine PQP1 expenditure allowances but are being applied to expenditure differently than in PQP1, are objectively justifiable and demonstrably reasonable; • A44.5 an explanation of how Chorus has determined that proxy cost allocators and proxy asset allocators that have not changed since PQP1 continue to meet the 'objectively justifiable and demonstrably reasonable' test in the IM Determination; • A44.6 In respect of Chorus' most recent review of its choice of allocator types for cost allocators, proxy cost allocators, asset allocators and proxy asset allocators as required by clause 2.1.3(1)(b) of the IM Determination: ○ A44.6.1 the results of that review; and ○ A44.6.2 an explanation of any changes that were made to its choice of allocator types for cost allocators, proxy cost allocators, asset allocators and proxy asset allocators that have been included in its PQP2 expenditure proposals. • A44.7 a description of any modifications or corrections made to cost allocators, proxy cost allocators, asset allocators and proxy asset allocators since the final PQP1 determination;[2] and • A44.8 an explanation of the proposed cost allocation of the proposed base capex and proposed opex for each base capex sub-category and opex sub- category, including: ○ A44.8.1 where forecast allocation values used to allocate expenditure to PQ FFLAS (for proposed opex and base capex), evidence that they are based on relevant and demonstrably reasonable assumptions, data, methods and judgements; ○ A44.8.2 where Chorus provides historical allocated information, details of and justification for any cost and asset allocation assumptions Chorus made to allocate expenditure to UFB FFLAS (for proposed opex and base capex); and ○ A44.8.3 where allocator values have changed materially since PQP1, an explanation for the changes.
	Response/ Reference: Refer to Modelling and Cost Allocation Report, Cost allocation section, reference footnotes for guidance

IR REF	COST ALLOCATION – INFORMATION REQUIRED ON COST ALLOCATION BETWEEN PQ FFLAS AND ID-ONLY FFLAS
A45	In relation to allocating forecast common costs between PQ FFLAS and ID-only FFLAS (where Chorus must apply the PQ FFLAS scope), provide:

2 Fibre Price-Quality Path Determination 2021 [2021] NZCC 27

IR REF	COST ALLOCATION – INFORMATION REQUIRED ON COST ALLOCATION BETWEEN PQ FFLAS AND ID-ONLY FFLAS
	• A45.1 an overview of the process and systems used, including any key assumptions, to develop forecast cost allocators consistent with the working assumption for "PQ FFLAS scope"; and • A45.2 a summary of the forecast cost allocation outcome between PQ FFLAS, ID- only FFLAS and services that are not regulated FFLAS for the proposed capex and proposed opex for each regulatory year of PQP2.
	Response/ Reference: Refer to Modelling and Cost Allocation Report, Cost allocation section, reference footnotes for guidance

IR REF	CROSS-EXPENDITURE TYPE PROGRAMME OR PROJECT SPECIFIC INFORMATION
A46.1	Provide: • A46.1 for each regulatory year of PQP2, proposed opex, proposed base capex, proposed connection capex or revenue (i.e., where costs are taken to revenue) for: ○ A46.1.1 projects or programmes aimed at increasing the number of PQ FFLAS end-users, including incentive programmes and discount programmes; and ○ A46.1.2 projects or programmes aimed at retaining PQ FFLAS end-users, including incentive programmes, retention programmes and discount programmes;
	Response/ Reference: Refer to Part B of this document, response B6.
A46.2	Provide: • A46.2 in relation to direct fibre access services: ○ A46.2.1 the actual or estimated number of direct fibre access services connections before 1 January 2025; ○ A46.2.2 the forecast number of direct fibre access services connections for each regulatory year of PQP2; ○ A46.2.3 proposed base capex, proposed connection capex or proposed opex related to direct fibre access services; ○ A46.2.4 a justification for the level of expenditure proposed for direct fibre access services; ○ A46.2.5 when responding to paragraph A46.2.1, Chorus may determine an appropriate reference date to report on, where the reference date used must be consistent with the information provided in response to paragraph A46.2.2; and ○ A46.2.6 provide a list of direct fibre access services Chorus proposes to offer during PQP2, including a summary of each service;
	Response/ Reference: Refer to Part B of this document, response B7.
A46.3 - A46.4	Provide: • A46.3 a description and value of all proposed base capex, proposed connection capex, and opex related to layer 1 PQ FFLAS;

IR REF	CROSS-EXPENDITURE TYPE PROGRAMME OR PROJECT SPECIFIC INFORMATION	
	• A46.4 a justification for the level of expenditure proposed for layer 1 PQ FFLAS;	
	Response/ Reference	Refer to Part B of this document, response B8.
A46.5	Provide: • A46.5 the value of all forecast capital contributions in relation to each of the proposed base capex sub-categories;	
	Response/ Reference	Refer to Part B of this document, response B9.
A46.6	Provide: • A46.6 the value and description of any proposed base capex, proposed connection capex or proposed opex related to innovation (where Chorus is able to propose which expenditure it considers relates to innovation);	
	Response/ Reference	There is no innovation expenditure within our PQP2 proposal. We have however recommended the introduction of an innovation and sustainability mechanism. Please refer to the Regulatory Settings chapter (7.2) of Our Fibre Plans for more information.
A46.7	Provide: • A46.7 an overview of the base capex by each geographic breakdown proposed in the regulatory templates.	
	Response/ Reference	Please refer to the regulatory templates for this breakdown in line with the scope of the templates agreed in Attachment C to the Notice. Simplifying assumptions are documented within the Modelling and Cost Allocation Report, 'How we allocate capex to PQ, ID only and ID areas' section.
A47	When responding to each of the requirements in paragraph A46 above, Chorus may make simplifying assumptions to provide a high-level estimate for each of the requirements. Where Chorus makes any such simplifying assumptions, Chorus must provide a summary of the key assumptions.	
	Response/ Reference	Any assumptions are stated alongside our responses, as per the references under A46 above.
A48	In relation to Chorus' proposed expenditure on marketing, provide: • A48.1 an overview of how Chorus' different marketing initiatives are managed collectively, including whether trade-offs are considered and made between different marketing types such as retail and wholesale marketing and customer acquisition and retention payments; and • A48.2 a description of the economic analysis used to determine total marketing expenditure and its constituent parts.	
	Response/ Reference	Please refer to section 12.4 of the Customer Opex chapter within Our Fibre Assets, on marketing.

IR REF	CONNECTIONS AND DEMAND FORECASTS	

A49	In relation to the forecast number of connections forecast in each year of PQP2, provide:
	• A49.1 an explanation of the quantitative methodology and the data sets used, including specifically the methodology used to forecast:
	  ○ A49.1.1 the number of total net connections;
	  ○ A49.1.2 the number of new connections;
	  ○ A49.1.3 the number of new intact connections;
	  ○ A49.1.4 the number of upgrades;
	  ○ A49.1.5 the number of disconnections; and
	  ○ A49.1.6 any ranges associated with the forecasts of new connections, new intact connections, upgrades and disconnections;
	• A49.2 the assumptions that are relied upon or utilised in the forecasting of connections and upgrades.	

	Response/ Reference	Please refer to the Demand chapter within Our Fibre Plans.
A50	In relation to the forecast of demand for network capacity, provide a detailed description of the quantitative forecast methodology, data sets used, and the assumptions relied upon or used in the forecasts.	
	Response/ Reference	Please refer to section 3.11 in the Demand chapter within Our Fibre Plans, as well as referencing to forecasting methodology in section 8.3.1 in the Network Capacity chapter of Our Fibre Assets.

IR REF	RESILIENCE EXPENDITURE	
A51	In relation to Chorus' proposed expenditure on improving resilience of Chorus' fibre network, provide: • A51.1 an overview of the proposed expenditure; • A51.2 a description of the quantitative, economic or other analysis used to determine the proposed expenditure; • A51.3 the total resilience expenditure across all capex categories; • A51.4 the break of the capex expenditure by base capex category and connection capex sub-type; • A51.5 a description by base capex category and connection capex sub-type of the reason for the proposed expenditure, the risk or risks being managed or mitigated, alternatives considered, and whether the proposed expenditure will result is within the current network or equipment architecture standards; and • A51.6 any proposed opex that is proposed to improve the response time to high impact events.	
	Interpretation/ Assumptions/ Explanation	Please note that all resilience capex is base capex and we have no resilience-specific opex in the PQP2 forecast.
	Response/ Reference	Response to A51 is contained in the 'Resilience' section 2.8 of the Proposal Insights chapter of Our Fibre Assets. Please also refer to the Resilience sub-category of the Network Sustain and Enhance chapter, section 7.6 of Our Fibre Assets.

IR REF	AUDIT REQUIREMENTS	
A52	Provide a report by an auditor that states whether: • A52.1 any historical financial information that forms part of the opex information has been: ○ A52.1.1 compiled, in all material respects, in accordance with the requirements of this notice; ○ A52.1.2 properly extracted from Chorus' financial records sourced from its financial systems; and ○ A52.1.3 audited in accordance with applicable auditing standards issued by the External Reporting Board in accordance with its functions under the Financial Reporting Act 2013 or any equivalent standards that replace these standards; • A52.2 any historical non-financial information that forms part of the opex information has been: ○ A52.2.1 compiled, in all material respects, in accordance with the requirements of this notice; ○ A52.2.2 properly compiled on the basis of the relevant underlying source information; and ○ A52.2.3 examined in accordance with applicable assurance standards; • A52.3 any forecast financial information that forms part of the opex information has been: ○ A52.3.1 compiled, in all material respects, in accordance with the requirements of this notice; ○ A52.3.2 properly compiled on the basis of disclosed assumptions and relevant underlying source information; and ○ A52.3.3 examined in accordance with applicable assurance standards; and • A52.4 any forecast non-financial information that forms part of the opex information has been: ○ A52.4.1 compiled in all material respects in accordance with the requirements of this notice; ○ A52.4.2 properly compiled on the basis of the disclosed assumptions and the relevant underlying source information; and ○ A52.4.3 examined in accordance with applicable assurance standards.	
	Response/ Reference	This response, along with all other Notice responses within the Proposal, have been subject to the audit requirements set out within this Notice. The audit report (C.PQP2.12) we provide as part of our Proposal submission states that responses to the Notice are within its scope.

Part B – Long form responses

B1 – Chorus' company structure in response to A6 of the notice

A6	Provide a summary of the parts of Chorus's company structure that are involved in the delivery of PQ FFLAS, including: • A6.1 a current company structure map, including: ○ A6.1.1 Chorus and all of its related companies and subsidiaries; ○ A6.1.2 a high-level description of the main functions of each company and subsidiary and their relationship with Chorus; and ○ A6.1.3 any proposed material changes planned to be made to Chorus' company structure for or in PQP2; • A6.2 a current organisation chart, including: ○ A6.2.1 a description of each operating unit; ○ A6.2.2 the relationships between the operating units; and ○ A6.2.3 staff numbers for each operating unit; and • A6.3 any already-confirmed material changes planned to be made to Chorus' company or organisational structure for or in PQP2 that can be expected to alter opex or capex for PQP2

Company structure

Chorus' company structure is as follows:

FIGURE B1.1: COMPANY STRUCTURE

Chorus Limited is the regulated fibre service provider under the Telecommunications Act. That is the entity which partnered with the Crown to undertake the UFB build, is listed on the NZX and ASX, and is the borrowing entity in the group's main financing arrangements. It has one wholly-owned subsidiary.

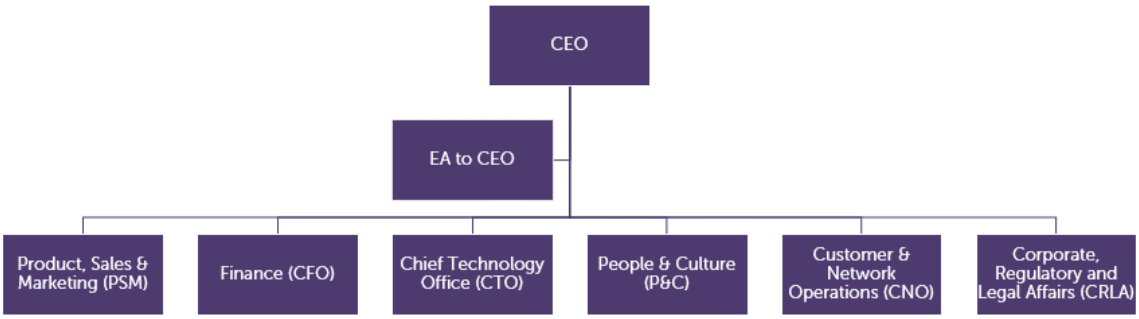
Chorus New Zealand Limited undertakes, and is the contracting entity for, the group's operating activities (including employing all Chorus people). It's the guarantor under the group's main financing arrangements. It has the same board as Chorus Limited, but a different company constitution.

There are no proposed changes to this structure planned to be made for or in PQP2.

Organisational structure

Chorus' most recent organisation chart, effective July 2023 is shown below.

FIGURE B1.2: ORGANISATIONAL STRUCTURE



Business unit description, relationships and staff numbers

The table below contains a description of each business unit[3] and states the staff numbers[4] in each operating unit as at 30 June 2023. Due to numerous restructures over recent years, providing a split of staff numbers by business unit over time does not provide a meaningful analysis.

TABLE B1.1 BUSINESS UNIT SUMMARY

OPERATING UNIT	DESCRIPTION	STAFF NUMBERS[5]
Executive	Chief Executive Officer (CEO) and all other Executive Officers	7
Product, Sales & Marketing (PSM)	The PSM, Product Sales & Marketing team play a crucial role in designing our corporate strategy and driving most of the revenue and growth. It is made up of the following teams: • Our Corporate Strategy team frames the long-term strategy and provides insights, data analysis and strategic recommendations • Our Customer Experience team focus on understanding our customers' needs and supports teams to design the best possible experience • Our Consumer, Business and Networks and New Access product teams drive the design and development of new products and incentives to deliver to our revenue and growth targets and maximise profitability • Our Marketing team is responsible for creating marketing strategies and campaigns to support our customers and stakeholders to grow broadband connections and uptake of our products and services • Our Sales team is responsible for promoting and selling our products and services to customers and managing these critical relationships.	102
Finance	The CFO's office, or Finance, is accountable for:	61

3 This responds to information requests A6.2.1 and A6.2.2 of the Information Notice.
4 This responds to information request A6.2.3 of the Information Notice.
5 On a full-time equivalent (FTE) basis, excluding contractors, as at 30 June 2023.

OPERATING UNIT	DESCRIPTION	STAFF NUMBERS[5]
(CFO)	• The management of our money, including use of credit, debt, securities and investments • Our financial performance or well-being, which is measured by reference to our assets, liabilities, revenue, expenses, equity and profitability • Investor Relations, which involves the strategic management of communications with our investors to help them make informed investment decisions • Treasury which involves managing financial risks to ensure we have the money we need to manage our day-to-day business obligations while also developing our long term financial strategy • Regulation which is making sure we are doing the right thing by consumers and NZ.	
Chief Technology Officer (CTO)	The CTO team ensures that Chorus has the robust and efficient technology needed to deliver a great experience for customers and their end-users. They are responsible for all aspects of technology, including the design, delivery and operation of IT systems, network infrastructure and services. They also play a huge part in ensuring all Chorusters have the technology tools required to do our jobs effectively.	178
Corporate, Regulatory & Legal Affairs (CRLA)	The CRLA function consists of a diverse range of teams who provide expertise to Chorus in order to achieve its strategic goals, including: • Legal (both Corporate/Commercial and Regulatory) • Sustainability • Risk, Internal Audit and Compliance • Regulatory and Policy Affairs • Partnerships - procurement/sourcing & any engagement that may require negotiation/contract • Government, stakeholder and external relationships.	37
People & Culture (P&C)	The P&C team looks after the employee experience at Chorus, including: • Talent Acquisition • P&C Business Partners • Payroll • Learning & Development • Diversity, Equity & Inclusion • Employment Relations • Insights & Reporting • Internal Communications • Me@Chorus (staff query mailbox).	23
Customer & Network Operations (CNO)	The CNO team ensures Chorus has robust and efficient capability to deliver field workforce outcomes and operate the Chorus network assets to deliver a great experience for customers. They are responsible for all aspects of building, operating and connecting customers to the Chorus network by maintaining strong relationships with our Service Companies and other suppliers, and effective management of our assets.	406

OPERATING UNIT	DESCRIPTION	STAFF NUMBERS[5]
Business Support	The Business Support Team (previously known as the Admin Team) support Chorus in a variety of ways. • The Executive Assistants and Personal Assistants support the Executive team, Board and Senior Leaders • The Business Support Administrators ensure the day-to-day administrative needs of the Chorus offices are met via the Business Support Mailbox • The team are located across the Auckland and Wellington offices however support all Chorusters no matter their location.	11

Future changes

On 23 May 2023, Chorus announced[6] operating model and executive team changes[7] to the market, with a further update on 29 August 2023.[8] These changes will not be finalised or implemented until after the submission of the PQP2 proposal, with the new organisational structure proposed to become effective in Q3 of FY24. At the time of this response, consultations below the Executive level are continuing.

The migration to a new operating model reflects Chorus entering a new phase of evolution and is designed to enable Chorus to better execute its strategy, reflect its new regulatory framework, and respond to a changing market environment. This structure includes:

- the introduction of three end-to-end value streams of Access (focusing on fibre broadband to homes and businesses), Infrastructure (leveraging Chorus assets to generate new revenues) and Fibre Frontier (focusing on rural and regional strategy)
- splitting the Corporate, Regulatory and Legal Affairs function to create two Executive roles in the form of a Chief Corporate and Regulatory Officer and a General Counsel
- combining the PSM and CFO Executive roles into a single Chief Operating Officer with a team combining finance, brand, marketing, strategy and customer engagement. The Deputy CFO will report into the COO, but also sit on the Executive team.

We expect the operating model change to be cost neutral with the main driver being to improve agility to better perform within a rapidly evolving communications market.

B2 – Competitive impacts in response to A11 of the notice

A11	Provide an explanation of where and how Chorus considers the proposed base capex, proposed connection capex, or proposed opex is likely to materially impact competitive dynamics or outcomes.

Chorus' fibre network already supports strong pro-competitive outcomes in New Zealand's telecommunications market. The fibre network has successfully delivered a step-change in service quality and capacity, creating a platform to facilitate retail competition. The network was

6 Refer to full market release here: https://www.nzx.com/announcements/411816
7 This responds to information request A6.3 of the Notice.
8 Refer to full market release here: https://www.nzx.com/announcements/417234

built ahead of demand and the extent of uptake and products offered far exceed what was envisaged when the fibre-to-the-home (FTTH) roll-out began.

While the PQP process can support competitive outcomes in downstream markets, it is not the primary vehicle to address competition issues in the telecommunications sector. The structural separation of Chorus, together with the Deeds of Undertakings obligations to supply services on an open access and non-discriminatory basis, supported by Part 2 of the Commerce Act, are the key remedies in place to mitigate the risk of anti-competitive behaviours.

In any event, in response to A11, we consider our PQP2 proposal may impact competitive dynamics and outcomes in the following markets:

- firstly, through our proposed expenditure, Chorus can facilitate competition between RSPs in the downstream retail telecommunications services market (the retail market)
- secondly, Chorus competes with other new and older technologies in the wholesale telecommunications market (the wholesale market).

Retail market

While we do not compete in retail markets, through our proposed expenditure we can facilitate competition between RSPs in this market to the ultimate benefit of customers in those markets.

TABLE B2.1: ASPECTS OF THE PQP2 EXPENDITURE PROPOSAL THAT WILL ASSIST IN FACILITATING RETAIL MARKET COMPETITION

EXPENDITURE	COMPETITION IMPACTS
Network augmentation • Chorus is proposing to extend the communal fibre network to a further 40,500 premises over PQP2, which would increase the current overall fibre network coverage in New Zealand from 87% to 89%.	• This proposed expenditure will facilitate competition in the retail market through increasing the availability and quality of internet options to customers who are outside of current UFB areas. These customers will currently have limited options[9] available in terms of technology and providers, and generally pay higher prices for worse outcomes. • This proposed expenditure will result in better outcomes for customers in terms of lower prices and better products and may mean more RSPs are able to offer services to these customers. • Please refer to Fibre Frontier chapter of Our Fibre Assets for more information.
Reliability driven network resilience • Resilience capex is associated with building additional redundancy into the network through duplication of critical assets, which improves network reliability. This was highlighted in stakeholder feedback as the highest priority area of discretionary expenditure. Chorus is planning a material increase in resilience capex for PQP2 relative to PQP1. Our RSP customers also support improvements in resilience and reliability on the grounds that negative customer experiences in this area impact their brand reputation and trust.	• Resilience capex leads to better outcomes for end-users due to the greater reliability of the network and less downtime for faults or natural disasters. • Improved network resilience strengthens the competitiveness of fibre relative to other products but also enables greater resilience for competing networks that rely on fibre inputs. • Please refer to Resilience section (7.6) of Network Sustain and Enhance chapter of Our Fibre Assets for more information.

[9] Both FFLAS services and fibre enabled competing networks including wireless networks.

EXPENDITURE	COMPETITION IMPACTS
Incentive payments • Customer incentive capex are payments that Chorus makes to RSPs to incentivise acquisition of new customers on its FFLAS network or to incentivise existing customers to upgrade to new services.	• It is clear incentives are important to our customers. They help RSPs to achieve their customer acquisition ambitions, which is critical for vigorous retail competition. • In terms of section 166(2) considerations, our incentives are particularly important in helping non-MNO RSPs compete with vertically integrated MNOs. • Please refer to Incentives section (6.6) of Installations chapter of Our Fibre Assets for more information.
Quality standards • Under the fibre PQ Determination, Chorus is subject to three mandatory quality standards: (a) Layer 1 availability, (b) Layer 2 availability, and (c) port utilisation. Chorus has forecast expenditure for PQP2 which are sufficient to meet its quality standards (with the exception of demand spikes – see Quality Report for details). The quality standards set minimum service expectations for end-users.	• Quality standards help to ensure that where prices are set by regulation, the regulated service provider does not reduce costs to a point where quality is affected. Therefore, quality standards promote better outcomes for end-users of FFLAS services. • Please refer to Quality chapter of Our Fibre Plans for more information.
Hyperfibre deployment • Hyperfibre (XGS-PON) is the next generation of broadband technology. We have Hyperfibre products available in the market CCI [ ]. • By the end of PQP1 we will have completed a proactive line card upgrade programme in the local exchanges – which will improve the customer on-boarding process for Hyperfibre. In PQP2 we will continue to deploy next generation line cards in PQP2, but only where it is required by end-user demand and there is no corresponding line card in the exchange. • In addition, in PQP2 we will continue to deploy GPON ONTs (not Hyperfibre-ready) as our default ONT CCI . We will keep this position under review and may alter our approach during PQP2 if circumstances change – for example, if there is an increase in actual or expected ONT failure rates, or if there is strong demand for XGS-PON services.	• Investing in this technology to make it more readily accessible for end-users and more attractive to RSPs promotes competition by creating a new, premium fibre product. • Please refer to Network Capacity and ONT Deployment chapters of Our Fibre Assets for more information.

Wholesale market

FFLAS services compete with new and older technologies in the wholesale telecommunications services market, including wireless (5G technology), satellite and copper services (which Chorus also provides). The fibre network that underpins PQ FFLAS services also enables many (or all) of these competing technologies.

TABLE B2.2: ASPECTS OF THE PQP2 EXPENDITURE PROPOSAL THAT WILL ASSIST IN FACILITATING WHOLESALE MARKET COMPETITION

EXPENDITURE	COMPETITION IMPACTS
Incentive payments • As described above, customer incentive capex are payments that Chorus makes to RSPs to incentivise acquisition of new customers on its FFLAS network or to incentivise existing customers to upgrade to new services.	• Chorus conducts compliance testing of all incentives to ensure they do not create risk under section 36 of the Commerce Act. We do this by conducting regulatory price testing of proposals to ensure that we are not pricing below cost in a manner that could be predatory. Importantly, incentives are not priced below the cost of the FFLAS to which they relate, based on our assumptions about connection life, which tend to be conservative. • As our proposed customer incentives meet the Commission's economic test of incremental revenue > incremental cost, they will not be anti-competitive as an efficient competitor would provide an equivalent incentive programme that would pass this test. • Additionally, customer incentives are subject to detailed disclosure requirements and oversight by the Commission. The Commission approved Chorus' customer incentives capex for 2023 and Chorus is proposing to continue incentive payments in 2024 and 2025 – 2029. This oversight by the Commission means that any detriments to competition will be limited. • We refer the Commission to the assessment of competition effects of customer incentives capex in our Individual Capex Proposal for 2023 customer incentives and supporting report from NERA, which remain current. • Please refer to Incentives section (6.6) of Installations chapter of Our Fibre Assets for more information.
Network extension • As described above, Chorus has proposed substantial capex for network augmentation, particularly in relation to extending the areas that fibre is available into urban fringe and rural areas.	• Our proposed network expansion will have a positive impact on competition in the wholesale market, by providing an additional wholesale option that, given our open access requirements, means any RSP could use these services. The investment will also increase the availability of fibre inputs for competing technologies. • In addition, our geographically consistent pricing obligations mean that we do not have the ability to charge different prices in different regions, which means in areas where we expand, we can only charge consistent prices with similar services. • Please refer to Fibre Frontier chapter of Our Fibre Assets for more information.
New Property developments • Expenditure in this category relates to the capital costs of laying fibre as part of new property developments (NPD). The expenditure included in our proposal is net of any capital contributions we forecast to receive from developers.	• We actively compete with other Local Fibre Companies (LFCs) to lay fibre in NPDs near our existing network. NPDs or subdivisions are an opportunity for us to increase the number of premises served by our fibre network and there is competition for subdivision contracts in all fibre areas.

EXPENDITURE	COMPETITION IMPACTS
	• We apply standard prices for NPDs, but this can vary on a development-by-development basis depending on the volume and development pipeline. However, we ensure that any ad hoc pricing remains NPV-positive. • We are looking to refine this approach to ensure that our offering remains competitive in market and compliant with our legislative and regulatory requirements. • Please refer to Extending the Network chapter of Our Fibre Assets for more information.
Quality standards • As above, Chorus is required to comply with certain quality standards, including availability and port utilisation standards. Our proposed expenditure will ensure that Chorus meets these availability standards.	• This will help promote competition to ensure that certain performance and service levels are met. • Please refer to Quality chapter of Our Fibre Plans for more information.
Marketing opex • Our marketing opex aims to attract new customers to fibre and promote the benefits of fibre. This is part of our active wholesaler strategy, which is essential given the market structure where our main customers have a strong incentive to market their own products over fibre.	• Our marketing opex promotes competition by helping ensure end-users are aware of the attributes of fibre relative to other technologies to help them select the best broadband option for them. Also, how to get fibre and how to use it to get the best broadband experience. • Please refer to Customer Opex chapter of Our Fibre Assets for more information.

In an investment context, competition effects, whether they relate to downstream retail telecommunications service markets or wholesale telecommunications service markets, are potentially an important benefit stream. However, it is not one that is easily quantifiable. In practice, the benefits will primarily relate to consumer welfare gains from reduced prices or improved availability and/or quality and resilience of broadband services.

B3 – Legislative obligations in response to A12 of the notice

A12	Provide a description of the legislative obligations that materially affect the proposed base capex, proposed connection capex, and proposed opex.	
	Interpretation and assumptions	We consider that this response requires us to focus on key legislative obligations not all legal obligations. And does not include obligations in contract or common law. We also consider that this request is asking for legislative obligations that are drivers of expenditure (base capex, connection capex and opex) not all legislative obligations

The key legislative obligations that are drivers of our proposed expenditure (base capex, connection capex and opex) are found in:

- Telecommunications Act 2001
- Resource Management Act 1991

- Building Act 2004
- Health and Safety at Work Act 2015
- Utilities Access Act 2010.

The most significant driver of all expenditure (base capex, connection capex and opex) in PQP2 relates to obligations for physical network works and civil works (e.g. ducting underground, maintaining buildings), including those specific to:

- installations and maintenance
- earthworks
- relocations
- reinstatement
- works in a legal road.

Telecommunications Act 2001

Part 4

Chorus must ensure it has the necessary rights to carry out activities on properties it does not own. Part 4 of the Telecommunication Act 2001 provides these rights as well as notice requirements and other formalities that must be complied with. Chorus has rights of access, and to inspect and maintain existing lines (any lines existing before 1 April 1989) and existing works (any works related to provisioning telecommunications existing before 1 January 1988).

Chorus also has certain access rights for installing fibre in shared properties and on existing electricity works (as defined by the Electricity Act 1992). These access rights trigger specific installation and reinstatement requirements and an obligation to subscribe to a specified dispute resolution scheme. Each of these obligations require Chorus to incur opex.

Some activities that are outside the scope of Part 4, including for new network assets, require negotiation of property rights (e.g. an easement, lease or license). There are costs associated with negotiating these property rights.

Under Part 4, we also have obligations to relocate the network if requested by a road controlling authority (local council or NZTA). This is a driver of base capex and opex as we cannot recover all costs for relocations through capital contributions.

Part 6

As Chorus transitions into its second regulatory period, we expect to continue to incur costs in PQP2 relating to the fibre regulatory framework, moving from the implementation stage to ongoing compliance. This includes ongoing work to ensure appropriate processes are in place to:

- test whether new products or product variations fall within the scope of FFLAS
- comply with geographically consistent pricing requirements for new and existing FFLAS
- meet compliance requirements relating to revenue control, quality standards, information disclosure and declared services
- prepare our third price-quality proposal
- maintain and update systems and processes to enable performance of the new regime.

Part 2A

Chorus' compliance obligations under Part 2A of the Telecommunications Act will continue in PQP2 including:

- our open access deeds of undertaking for fibre services
- line of business restrictions
- sharing arrangements – including shared systems arrangements for assets and systems we share with Spark.

We also incur costs under the Telecommunications Act 2001 obligations for levies (Commerce Commission costs and Telecommunications development) and membership fees for disputes schemes. We note that these are treated as pass through costs under the IMs.

Resource Management Act 1991

Physical works and activities need to comply with the Resource Management Act 1991. The current purpose of the Act is to promote the sustainable development of natural and physical resources. It does that by putting in place a framework for managing the effects of activities on the environment. A new resource management framework is currently being developed; if this comes into force during PQP2, we expect additional costs would be incurred to ensure we comply with the new requirements. Detailed rules are contained in lower-level planning documents such as district and regional plans and the National Environmental Standard for Telecommunications Activities Facilities 2016.

Some activities that Chorus undertakes incur costs through requirements for resource consents including compliance with traffic management plans and specified earthworks and reinstatement conditions. This is a driver of base capex and opex.

Building Act 2004

Legislative obligations under the Building Act 2004 requiring the condition of network buildings to be safe is a driver of base capex and opex. For example, we use preventative maintenance to strengthen our buildings to align with Building Code requirements under the Building Act 2004. Our engineering services for network buildings, including for ventilation/HVAC, power and fire suppression systems, must also be compliant with the Building Code.

Health and Safety at Work Act 2015

Chorus must comply with a range of obligations as a person in control of a business undertaking (PCBU) under the Health and Safety at Work Act 2015. This is relevant to all Chorus activities, both in the field with employees, contractors and subcontractors as well as in the office environment. Cost involved in implementing our Health and Safety obligations include making sure we have the right processes, systems and risk mitigation to support work activities in all locations, including the field.

Utilities Access Act 2010

Chorus must comply with the National Code of Practice for Utility Operators' Access to Transport Corridors which applies under the Utilities Access Act 2010. The Code contains processes for coordinating and obtaining consent for access to road and rail corridors for utilities, including telecommunications related work in transport corridors. Chorus incurs costs in undertaking these processes.

B4 – Policies, strategies, frameworks in response to A15 of the notice

A15	Provide a list and description of Chorus' policies, strategies, other management frameworks, and risks assessments that materially influence the proposed base capex, proposed connection capex and proposed opex, including where relevant to each expenditure sub-category.	
	Interpretation and assumptions	We consider that this request only refers to policies, strategies, other management frameworks and risks assessments that are materially significant to the Proposal.

Policies

We consider that the following key policies influence proposed capex and opex.

TABLE B4.1 POLICIES

POLICY	DESCRIPTION	CATEGORY AND SUB-CATEGORY AFFECTED
Asset Management Policy	Chorus' Asset management policy sets out how we will create an environment for our customers and our people that optimises today's business and allows us to innovate for the future. It references the management, maintenance and development of all Chorus assets. Chorus' assets referred to in this policy include our physical assets, plus anything that has potential or actual value to Chorus, including financial, human resources, intellectual property and intangible assets. A copy of this policy is included in our PQP2 Proposal submission. Please refer to C.PQP2.19.	All
Procurement Policy	Chorus' procurement policy ensures Chorus applies a consistent, professional procurement practice and secures necessary materials and services at appropriate quality levels on commercially favourable terms. A copy of this policy is included in our PQP2 Proposal submission. Please refer to document C.PQP2.20.	All
Health & Safety Policy	Chorus' Health & Safety policy includes our approach to Health & Safety, our responsibilities, our objectives and how we will achieve them. Chorus also has several related policies including Health & Safety governance, Drug & Alcohol Policy, Motor Vehicle policy, Physical security and visitor access policy and the Rehabilitation policy.	All
Property policy	Chorus' property policy sets out expectations of how company property is treated and the limits to be applied in using it. The Property Infrastructure policy ensures Property Infrastructure is available for Chorus to install and operate equipment to provide services to our customers.	Network Sustain and Enhance capex – Site Sustain Network opex – Network Operations Support opex – Corporate
Technology policies	Chorus has several technology policies including Information Management, Information control, Technology and Technology security, and Technology continuity policies. These policies provide guidance on the management, control and security of Chorus information and systems.	IT and Support capex including all sub-categories Network Capacity – all sub-categories Support opex - Technology

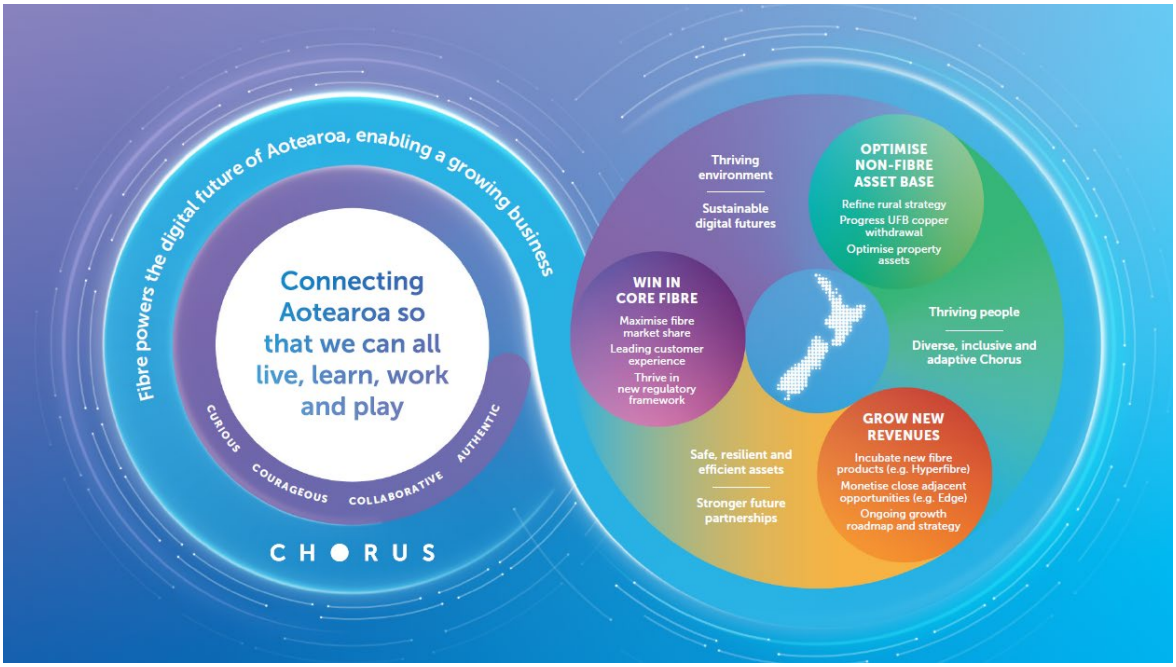
A further list of policies, including copies of many of these, can be found on our website: https://company.chorus.co.nz/about/governance.

Strategies

Our Corporate Strategy underpins our proposal and all our investment decisions, so references to the strategy are made throughout our proposal. We also discuss in the Engagement chapter of Our Fibre Plans about our consultation process that helped shape our revised corporate strategy.

Our overall strategy is encapsulated in the following visual. Please also refer to the 'Outlook' section of our 2022 Annual Report,[10] which introduced our new strategy last year.

FIGURE B4.1: OUR STRATEGIC FOCUS



Other management frameworks

Please refer to the Governance chapter, section 2.3, of Our Fibre Plans for a list and description of key management frameworks, including product management, financial management, asset management, risk management and internal audit. We also have a more fulsome description of our asset management frameworks within our Asset Management chapter of Our Fibre Assets.

Risk assessments

Whilst we talk to our risk framework within the Governance chapter, any specific risks are called out in the relevant chapters throughout the proposal. These are predominantly noted within the various expenditure chapters of Our Fibre Assets, or within the Demand and Delivery chapters of Our Fibre Plans.

10 Our 2022 Annual report can be found online here, 'Outlook' section on pages 12-13: https://downloads.ctfassets.net/7urik9yedtqc/Vzoda4w43ExkViiipBpEj/1d9ea6a5c03cf5fc50d3f799b03b816f/FY22_Annual_Report.pdf

B5 – Dividends and debt management in response to A22

A22.1	Provide: • A22.1 a summary of Chorus' strategies for dividends and debt management applicable to PQP2;

The guiding principle for dividend and debt management is the Chorus Board's commitment to maintain a 'BBB' credit rating. Both dividends and debt are managed at a total Chorus level; PQ FFLAS and other Chorus services are managed as one cash generating unit.

For FY2024, Chorus has given the market guidance that a 47.5cps dividend is expected to be paid, subject to no material adverse changes in circumstance or outlook. FY2024 will be the first year of a new dividend policy that is based on a pay-out range of free cash flow, having transitioned from a fixed cents per share pay-out policy. It is anticipated the new dividend policy will remain in place for PQP2.

Debt is effectively a balancing item, being the product of operating performance and dividend policy. Maturing debt will be refinanced as and when required.

A22.2	Provide: • A22.2 an explanation of how Chorus' strategies for dividends and debt management are consistent with the equivalent information available to Chorus's external stakeholders immediately prior to Chorus submitting its base capex proposal, connections capex baseline proposal and opex proposal;

Chorus has issued market guidance[11] on the FY2024 dividend and that the new dividend policy (based on a pay-out range of free cash flow) is anticipated to be in effect for PQP2. Apart from the transition to the new dividend policy (as advised in our response to the 18 November 2020 Information Request), there has been no change to dividend and debt management strategies prior to proposal submission.

A22.3	Provide: • A22.3 an explanation of how Chorus' strategy for dividends and debt management are consistent with proposed base capex, proposed connection capex, and proposed opex;

Dividend and debt are managed by the corporate function at an overall Chorus level (PQ FFLAS and other services are managed as one cash generating unit). Our proposals for regulatory base capex, connection capex and opex are developed from the Chorus 10 year plan (10YP).The 10YP considers Chorus-wide dividend and debt management policies.

As noted above, Chorus has issued market guidance for FY2024 and has now fully transitioned to a pay-out of free cashflow based dividend policy (effective from and including FY2024). Under this policy, consideration is given to capital expenditure, as defined at an overall Chorus group level. The policy states ordinary dividends would be 60% to 80% of net cash flow from operating activities (i.e. after sustaining capital expenditure is deducted from free cash flow).

A22.4	Provide:

11 Refer Chorus FY23 Annual results presentation, p19, https://company.chorus.co.nz/file-download/download/public/2153

	• A22.4 if Chorus makes assumptions in its responses to A22.1-A22.3 above that differ from its standard corporate modelling, describe those assumptions.

The assumptions used in our responses and for standard corporate modelling are the same except for some specific regulatory adjustments included in the proposal due to regulatory requirements. Regulatory adjustments (e.g. cost escalators) are described in the modelling section of our 'Modelling and Cost Allocation Report.'

B6 – Incentive, retention and discount programmes in response to A46.1

A46.1	Provide: • A46.1 for each regulatory year of PQP2, proposed opex, proposed base capex, proposed connection capex or revenue (i.e., where costs are taken to revenue) for: ○ A46.1.1 projects or programmes aimed at increasing the number of PQ FFLAS end-users, including incentive programmes and discount programmes; and ○ A46.1.2 projects or programmes aimed at retaining PQ FFLAS end-users, including incentive programmes, retention programmes and discount programmes;	
	Interpretation and assumptions	Our interpretation of 'retention' in this context includes expenditure to incentivise customers, including via influencing RSPs. We consider 'retention' to be a broad concept that covers the following: • encouraging migration to fibre as part of our copper to fibre strategy • encouraging offnet households to connect to our network • optimising consumer experience by moving customers up the portfolio of fibre plans, and • retaining customers on our network, given the availability of alternative services. Our understanding is that our migrations programme would come within this interpretation of retention as it is a programme to encourage migration to fibre and retain customers with Chorus. We interpret retention in this context to not include expenditure for provisioning customers (e.g. call centres, ordering systems and truck rolls) – which is capitalised. Our reasoning is that these are not projects or programmes aimed to specifically retain or increase PQ FFLAS end users. They are costs to enable FFLAS to be deployed. We have excluded marketing costs as these are covered separately in response to requirement A48.

Customer incentives scheme (capex)

Please refer to the Installations chapter (section 6.6) of Our Fibre Assets for a full response on our incentives expenditure, including proposed expenditure, rationale and economic tests.

Migrations programme (capex and opex)

What is our Migrations programme?

Our Migrations Programme is aimed at increasing the number of FFLAS end users, or in other words 'new connections'. It involves direct activities that include door knocking, direct marketing and working with gated community management to bulk install a multi dwelling site. The

Migrations programme team liaises directly with the consumer in these activities and support our Retail Service Providers in the migration from copper to fibre using the copper withdrawal code.

Treatment of migration expenditure

Our Migrations programme is forecast as opex as it is either internal labour or contracts with door knocking companies. Where migrations activity results in a customer order, some of the internal labour and door knocking costs are capitalised as the activity supports fibre installations assets. The portion that is not capitalised remains as opex and is part of the forecast of Customer Opex, Customer Operations sub-category.

The justification for the Migrations programme is explained in the 'Installations' chapter for capex ('strategic objectives' (6.3) and 'how we deliver' (6.4.5) sections).

The opex forms part of our base-step-trend opex forecast. No base year adjustments or steps have been identified in relation to this expenditure. This expenditure has then been trended in line with our BST methodology, as outlined in the Opex Insights chapter within Our Fibre Assets.

TABLE B6.1 MIGRATION FORECASTS

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Migrations opex*	0.8	0.8	0.8	0.8	3.2
Migrations connection capex**	1.5	1.0	0.4	0	2.9
Total Migrations expenditure	2.3	1.9	1.2	0.8	6.1

* Migrations opex payments are a subset of the Customer operations opex sub-category

** Migrations capex payments are a subset of the Standard installations capex sub-category and form part of Connection capex

Other considerations

Please also review our expenditure chapter on Installations in Our Fibre Assets, which further explains our investment in incentives programmes (6.6).

B7 - Direct Fibre Access Services in response to A46.2

A46.2	Provide: • A46.2 in relation to direct fibre access services: ○ A46.2.1 the actual or estimated number of direct fibre access services connections before 1 January 2025; ○ A46.2.2 the forecast number of direct fibre access services connections for each regulatory year of PQP2; ○ A46.2.3 proposed base capex, proposed connection capex or proposed opex related to direct fibre access services; ○ A46.2.4 a justification for the level of expenditure proposed for direct fibre access services;

	○ A46.2.5 when responding to paragraph A46.2.1, Chorus may determine an appropriate reference date to report on, where the reference date used must be consistent with the information provided in response to paragraph A46.2.2; and ○ A46.2.6 provide a list of direct fibre access services Chorus proposes to offer during PQP2, including a summary of each service;
Interpretation and assumptions	**A46.2** refers to direct fibre access services (**DFAS**). This is a regulated service.[12] Where we refer to DFAS in our responses, we refer to the product described here, as provided in PQ areas, which we consider constitutes the regulated service: https://sp.chorus.co.nz/product/direct-fibre-dfas/overview. **A46.2.3** asks for the proposed base capex, proposed connection capex and proposed opex related to DFAS. We do not forecast expenditure in the way that the Commission has asked for it (i.e. for individual services). We note that: • We have provided estimates since we do not record all costs incurred providing DFAS as related to individual services (e.g. shared corporate costs are not specifically recorded as DFAS). While our systems are changing over time to better identify different services, they currently do not record end-to-end costs related to each service. This limitation has previously been recognised and acknowledged by the Commission.[13] • Our overall approach has been to identify decision packets (for capex) and general ledger codes (for opex) that are likely to contain a significant amount of cost related to DFAS, however, this is a separate calculation from our building blocks model (BBM) and aggregation modelling, which doesn't identify individual services. • As a result of our approach, the capex and opex provided is conservative and it is only a subset of all costs incurred providing DFAS. • We have used costs and connections forecasts from the business planning process which is consistent with the PQP2 proposal.

A46.2.1	A46.2 in relation to direct fibre access services provide: • A46.2.1 the actual or estimated number of direct fibre access services connections before 1 January 2025;

For A46.2.1 we have provided the actual and forecast number of DFAS connections for each calendar year (as at 31 December) for the five years prior to 1 January 2025:

TABLE B7.1 ACTUAL AND FORECAST NUMBER OF DFAS CONNECTIONS PRE-2025

NUMBER OF CONNECTIONS	2020 (ACTUAL)	2021 (ACTUAL)	2022 (ACTUAL)	2023 (FORECAST)	2024 (FORECAST)
DFAS connection volume	4,945	5,080	5,408	5,470	5,584

12 Section 228 of the Telecommunications Act allows for regulations declaring a direct fibre access service to be a FFLAS service. Clause 14 of the Telecommunications (Regulated Fibre Services) Regulations declares "Large user direct fibre access services" (or LUDFAS) to be a regulated direct fibre access service. In practice we supply this via our DFAS service.

13 Commerce Commission, Fibre Input Methodologies Main Final Decisions - Reasons Paper, 13 October 2020 [paragraphs 3.395-3.436]

A46.2.2	A46.2 in relation to direct fibre access services provide: • A46.2.2 the forecast number of direct fibre access services connections for each regulatory year of PQP2;

For A46.2.2 we have provided the forecast number of DFAS connections for each regulatory period (as at 31 December) of PQP2:

TABLE B7.2 FORECAST NUMBER OF DFAS CONNECTIONS FOR PQP2

NUMBER OF CONNECTIONS	2025 (FORECAST)	2026 (FORECAST)	2027 (FORECAST)	2028 (FORECAST)
DFAS connection volume	5,687	5,796	5,925	6,053

A46.2.3	A46.2 in relation to direct fibre access services provide: • A46.2.3 proposed base capex, proposed connection capex or proposed opex related to direct fibre access services;

For A46.2.3, we have provided the estimated proposed capex and opex related to DFAS described in the assumptions above. This is provided for each regulatory year within PQP2. As noted above, we forecast capex on a network and project basis, rather than based on the resulting product and therefore we have had to estimate forecast DFAS costs.

How we have estimated PQP2 base and connection capex for DFAS:

- We have *started* with forecast capex from the Business Fibre Decision Packet which contains capitalised cost (including materials and labour) for point-to-point dark fibre access. We note that this is not the same as end-to-end capex for DFAS as:
    - The decision packet includes capex related to multiple services (we adjust for this, see below)
    - The scope of the capex cost is limited to build cost. For example, provisioning cost, capitalised maintenance and costs relating to existing fibres that might be part of a DFAS connection are excluded
    - Furthermore, we have not prorated any costs related to the existing assets (shared and directly attributable), including the financial loss asset
    - The scope of the capex cost is not limited to Layer 1 as some Layer 2 costs are included (we adjust for this, see below).
- To limit the scope to Layer 1 we have removed an estimate of Layer 2 costs from the decision packet.
- To reduce the scope to DFAS we have then prorated capex in the decision packet based on the number of DFAS orders (as a proportion of point-to-point connections).

- We have identified revenue capital contributions related to business fibre connections in the general ledger. We have pro-rated the contributions between DFAS and other point-to point services using the same split as gross capex.
- Gross capex, capital contributions and net capex are in constant 2022 terms.

How we have estimated PQP2 opex for DFAS:

- When forecasting capex for DFAS, we also completed a forecast on the expected project opex cost. This opex cost relates to DFAS relinquishments and any other costs incurred as part of the capex project that do not meet the requirements for capitalisation. It only includes minimal labour costs associated with the specific project.
- We have not included an allocation of any opex that is not the project opex mentioned above. Our cost allocation approach is applied at the FFLAS/non-FFLAS level and therefore prorating shared costs to individual services is not meaningful as the overall FFLAS allocation of costs will not necessarily be indicative of the DFAS allocation of cost.

TABLE B7.3 DFAS CONNECTION CAPEX

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Gross capex	[CCI]	[CCI]	[CCI]	[CCI]	[CCI]
Capital contributions	[CCI]	[CCI]	[CCI]	[CCI]	[CCI]
Net connection capex	[CCI]	[CCI]	[CCI]	[CCI]	[CCI]

TABLE B7.4 DFAS BASE CAPEX

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Gross capex	[CCI]	[CCI]	[CCI]	[CCI]	[CCI]
Capital contributions	[CCI]	[CCI]	[CCI]	[CCI]	[CCI]
Net base capex	[CCI]	[CCI]	[CCI]	[CCI]	[CCI]

CCI |
].

TABLE B7.5 DFAS OPEX

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Opex associated with DFAS capex (E.g. relinquishments)	1.0	1.0	1.0	1.0	4.0

A46.2.4	A46.2 in relation to direct fibre access services provide: • A46.2.4 a justification for the level of expenditure proposed for direct fibre access services;

For A46.2.4, the justification for our PQP2 expenditure is provided in the PQP2 expenditure proposal. The following chapters are relevant:

- Governance, which describes our corporate governance and the specific governance we have put in place to promote a robust proposal, the key management frameworks we use to support both corporate and proposal specific governance, and how governance has shaped our proposal through effective challenge processes.
- Demand, in particular section 3.10, which describes our connection forecasting methodology.
- Installations, which includes all capital expenditure associated with connecting end-users to our fibre network.

- Network Opex, which describes our network-related operating expenditure.

A46.2.5	A46.2 in relation to direct fibre access services provide: • A46.2.5when responding to paragraph A46.2.1, Chorus may determine an appropriate reference date to report on, where the reference date used must be consistent with the information provided in response to paragraph A46.2.2;

For A46.2.5 we note that we have used calendar years (from 31 December each year) for our response to A46.2.1. This approach aligns with our regulatory years in A46.2.2 which run from 1 January to 31 December each year. Our connection volumes in A46.2.2 are also provided as at 31 December each year. Connection, information is drawn from historical data (for actuals) and the business planning process (for forecasts) – this is consistent with the information used to produce the PQP2 proposal.

A46.2.6	A46.2 in relation to direct fibre access services provide: • A46.2.6 provide a list of direct fibre access services Chorus proposes to offer during PQP2, including a summary of each service;

For A46.2.6 we note that there is only one direct fibre access service that is a regulated service, this is LUDFAS. As noted above in practice this is provided through our DFAS service, a description of which is provided here: https://sp.chorus.co.nz/product/direct-fibre-dfas/overview.

B8 - Layer 1 PQ FFLAS services in response to A46.3 and A46.4

A46.3 - A46.4	Provide: • A46.3 a description and value of all proposed base capex, proposed connection capex, and opex related to layer 1 PQ FFLAS; • A46.4 a justification for the level of expenditure proposed for layer 1 PQ FFLAS;	
	Interpretation and assumptions	**A46.3** asks for the proposed base capex, proposed connection capex and proposed opex related to layer 1 PQ FFLAS. We do not forecast expenditure in the way that the Commission has asked for it (i.e. for individual services). We note that: • The capex and opex provided is conservative and it is only a subset of all costs incurred providing layer 1 PQ FFLAS. • We have provided estimates since we do not record all costs incurred providing layer 1 PQ FFLAS as related to individual services (e.g. shared corporate costs are not specifically recorded as layer 1 PQ FFLAS). While our systems are changing over time to better identify different services, they currently do not record end-to-end costs related to each service. This limitation has previously been recognised and acknowledged by the Commission.[14] • Our overall approach has been to identify decision packets (for capex) and general ledger codes (for opex) that are likely to contain a significant amount of cost related to layer 1 PQ FFLAS, however, this is a separate calculation from our building blocks model (BBM) and aggregation modelling which doesn't identify individual services. • As a result of our approach, the capex and opex provided is conservative and it is only a subset of all costs incurred providing layer 1 PQ FFLAS.

14 Commerce Commission, Fibre Input Methodologies Main Final Decisions - Reasons Paper, 13 October 2020 [paragraphs 3.395-3.436]

		• We have used costs and connections forecasts from the business planning process which is consistent with the PQP2 proposal.

A46.3	Provide: • A46.3 a description and value of all proposed base capex, proposed connection capex, and opex related to layer 1 PQ FFLAS;

For A46.3, we have provided an estimate of all proposed base capex, proposed connection capex and opex related to Layer 1 PQ FFLAS.

We have estimated PQP2 base and connection capex for Layer 1 PQ FFLAS through the following process:

- We reviewed the types of assets created from capex and identified the asset platform categories that directly relate to Layer 1 PQ FFLAS and summed the capex relating to those platforms. Asset platform categories are groups of assets with the same characteristics (e.g. Layer 1 fibre cable assets)
- Layer 1 PQ FFLAS includes capex and opex related to DFAS. The response to A46.2.3 is a subset of the response to A46.3
- Capital contributions have been pro-rated by capex expenditure
- The data was sourced from the RP2 expenditure models particularly the following chapters: Extending the Network, Installations, Network Sustain and Enhance section of the Expenditure Proposal.

The costs below are not exhaustive as we have not allocated any costs from shared asset platforms. Where we did not have cost information readily available, the costs were not included.

We have estimated PQP2 opex for L1 PQ FFLAS by:

- Reviewing our general ledgers and identifying any we have identified general ledger codes that can be clearly linked to L1 PQ FFLAS
- We have not included an allocation of opex that is not directly attributable to FFLAS (ie shared opex). Our cost allocation approach is applied at the FFLAS/non-FFLAS level and therefore prorating shared costs to individual services is not meaningful as the overall FFLAS allocation of costs will not necessarily be indicative of the Layer 1 PQ allocation of cost.

TABLE B8.1 L1 PQ FFLAS CONNECTION CAPEX

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Gross capex	59.5	54.1	48.9	39.0	201.5
Capital contributions	(6.6)	(7.1)	(6.2)	(4.3)	(24.2)
Net connection capex	52.9	47.0	42.7	34.7	177.3

TABLE B8.2 L1 PQ FFLAS BASE CAPEX

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Gross capex	141.0	145.4	135.8	152.6	574.8
Capital contributions	(27.0)	(27.6)	(21.9)	(23.4)	(99.9)
Net base capex	114.0	117.8	113.9	129.2	474.9

TABLE B8.3 L1 PQ FFLAS OPEX

$M CONSTANT 2022 DOLLARS	2025	2026	2027	2028	TOTAL PQP2
Opex	27.2	27.6	27.8	28.1	110.7

A46.4	Provide: • A46.4 a justification for the level of expenditure proposed for layer 1 PQ FFLAS;

For A46.4, the justification for our PQP2 expenditure is provided in the PQP2 expenditure proposal. The following chapters are relevant:

- Governance, which describes our corporate governance and the specific governance we have put in place to promote a robust proposal, the key management frameworks we use to support both corporate and proposal specific governance, and how governance has shaped our proposal through effective challenge processes
- Demand, in particular section 3.10, which describes our connection forecasting methodology
- Installations, includes all capital expenditure associated with connecting end-users to our fibre network
- Extending the Network, which covers work to extend communal infrastructure to new streets or developments, and to infill the network to accommodate address growth
- Network Sustain and Enhance, which covers investment in physical network assets
- Network Opex, which describes our network-related operating expenditure.

B9 – Capital contributions in response to A46.5

A46.5	Provide: • A46.5 the value of all forecast capital contributions in relation to each of the proposed base capex sub-categories;

Please find below, a table splitting out capital contributions into the component parts:

TABLE B9.1 CAPITAL CONTRIBUTIONS BY PQP2 EXPENDITURE CATEGORY ($M PQ FFLAS CONSTANT)

EXPENDITURE CATEGORY	SUB-CATEGORY	GROSS CAPITAL EXPENDITURE	CAPITAL CONTRIBUTION	NET CAPITAL EXPENDITURE
Base capex				
Extending the Network	New Property Developments	CCI |]	CCI |]	CCI |]
Installations	Complex Installations	1.8	-	1.8
Installations	Standard Installations	117.7	-	117.7
Network Sustain and Enhance	Relocations	33.0	(14.8)	18.2
Other		984.7	-	984.7
Total base capex		**CCI |]**	**CCI |]**	**CCI |]**
Connection capex				
Installations	Complex Installations	22.0	(12.3)	9.7
Installations	Standard Installations	194.5	(14.2)	180.3
Total connection capex		**216.5**	**(26.5)**	**190.0**
Total capex				
Extending the Network	New Property Developments	CCI |]	CCI |]	CCI |]
Installations	Complex Installations	23.7	(12.2)	11.5
Installations	Standard Installations	312.3	(14.3)	298.0
Network Sustain and Enhance	Relocations	33.0	(14.8)	18.2

EXPENDITURE CATEGORY	SUB-CATEGORY	GROSS CAPITAL EXPENDITURE	CAPITAL CONTRIBUTION	NET CAPITAL EXPENDITURE
Other		984.7	0.0	984.7
GRAND TOTAL		CCI [ ]	CCI [ ]	CCI [ ]

B10 – Labour Capitalisation in response to A33

A33	Provide a quantitative demonstration that Chorus' proposed base capex, connection capex, and opex do not (in aggregate) double-count capitalised costs.

To demonstrate our expenditure proposal doesn't double count capitalised costs, we have focused our attention on providing insight into the nature of the expenditure within our FFLAS forecasts for operating costs. This approach will demonstrate our operating expenditure captures "Net Labour", which excludes any capitalised labour from our operating expenditure forecast.

Tables B10.1 and B10.2 provide a quantitative demonstration our opex doesn't double count capitalised costs, ensuring the expenditure is only captured once in the proposal.

TABLE B10.1 AGGREGATE GROSS AND NET LABOUR AND OTHER OPERATING COSTS

Expense Category	Total
Gross Labour Costs	447.2
Capitalised Labour	-217.0
Net Labour Operating Expenditure	**230.2**
Advertising	55.4
Consultants	37.8
Electricity	35.1
Information Technology	139.7
Insurance	21.9
Maintenance Copper	1.7
Maintenance Fibre	92.2
Other Expenses	44.8
Other Network Costs	52.2
Property maintenance	23.0
Provisioning	2.0
Regulatory levies	0.3
Rent and Rates	3.4
Non- Labour Operating Expenditure	**509.6**
Total PQ FFLAS Operating Expenditure	**739.8**

Above is our total expenditure for the proposal by general ledger category (nature of expenditure). Within our accounting systems capitalised labour entries are coded to specific general ledger accounts, which allows us to separately account and identify capitalised labour.

The general ledger accounts are captured within our detailed BST Cost Allocation model, and can be seen by analysing the data within the model.

The below view is the same expense category view by narrative category.

TABLE B10.2 GROSS AND NET LABOUR AND OTHER OPERATING COSTS BY NARRATIVE CATEGORY

Expense Category	Customer Opex	Network Opex	Support Opex	Total
Gross Labour Costs	116.7	17.6	312.9	**447.2**
Capitalised Labour	-95.6	-0.2	-121.2	**-217.0**
Net Labour Operating Expenditure	**21.0**	**17.4**	**191.8**	**230.2**
Advertising	48.6	0.1	6.7	**55.4**
Consultants	4.5	0.2	33.1	**37.8**
Electricity	0.0	34.9	0.2	**35.1**
Information Technology	1.2	43.8	94.6	**139.7**
Insurance	0.0	0.0	21.9	**21.9**
Maintenance Copper	0.0	1.7	0.0	**1.7**
Maintenance Fibre	0.0	92.2	0.0	**92.2**
Other Expenses	3.3	3.6	38.0	**44.8**
Other Network Costs	5.7	45.6	0.9	**52.2**
Property maintenance	0.0	21.3	1.7	**23.0**
Provisioning	2.0	0.0	0.0	**2.0**
Regulatory levies	0.0	0.0	0.3	**0.3**
Rent and Rates	0.0	0.3	3.2	**3.4**
Non- Labour Operating Expenditure	**65.3**	**243.7**	**200.6**	**509.6**
Total PQ FFLAS Operating Expenditure	**86.4**	**261.1**	**392.3**	**739.8**

As shown in the above table, we forecast $447m gross labour costs, with a reduction of $217m for labour recoveries, reducing labour costs to reflect what is recovered through the capitalisation of labour.

The adjustment of $217m demonstrates opex is being reduced by the capitalised labour value. Capitalised labour is included in our total capex forecast (base and connection).

If we didn't make this adjustment, we would be double counting capitalising expenditure.