

# **Chorus' price-quality path for the 2025-2028 regulatory period**

## **Consultation on Chorus' proposed expenditure for PQP2**

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## Associated documents

Publication date	Reference	Title
28 February 2023	ISBN 978-1-99-101275-3	Duration of the second regulatory period for Chorus' price-quality path – Final decision – Reasons paper
28 February 2023	ISSN 1178-2560	Determination of the duration of the second regulatory period for Fibre Price-Quality Path Determination 2024 [2023] NZCC 2
28 February 2023	-	Notice to supply information to the Commerce Commission under section 221 of the Telecommunications Act 2001 – Requirements for base capital expenditure, connection capex baseline expenditure, and operating expenditure proposals
31 August 2023	ISBN 978-1-991085-31-3	Fibre price-quality regulation – Proposed process and approach for the 2025-2028 regulatory period

Commerce Commission  
Wellington, New Zealand

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# Chapter 1 Introduction

## Purpose of this consultation paper

- 1.1 On 31 October 2023, Chorus Limited (Chorus) submitted its expenditure proposal for its second price-quality period (PQP2) to the Commerce Commission (Commission). The proposal represents Chorus' views of the expenditure it needs over PQP2 to invest in its fibre network and to deliver the services that end-users want. Alongside the expenditure proposal, Chorus has also submitted the report by the independent verifier, Synergies Economic Consulting (Synergies).
- 1.2 This paper invites views on Chorus' expenditure proposals for PQP2. It identifies specific aspects of Chorus' expenditure proposal on which we seek stakeholder views. We are not providing views on Chorus' expenditure proposal at this stage (and have not yet assessed Chorus' proposal) but we are interested in stakeholder views to provide input into our evaluation.
- 1.3 The primary purpose of this consultation paper is to provide a short introduction and overview of Chorus' proposal and highlight particular findings of the independent verifier. Although we have identified specific aspects of the proposal on which we seek stakeholder views, we are also interested in views on all aspects of Chorus' expenditure proposal and the independent verifier's report. Submissions that stakeholders submit will help inform our consideration of the evaluation criteria we are required to apply in order to reach our draft decision on Chorus' price-quality path for PQP2.<sup>1</sup>
- 1.4 Chorus' proposal and supporting documentation (including the independent verifier's report) are available on our website.

## Structure of this paper

- 1.5 This paper is structured as follows:
  - 1.5.1 Chapter 1 is an introduction and sets out the background, key processes and dates;
  - 1.5.2 Chapter 2 sets out the proposed topic areas; and
  - 1.5.3 Appendix A contains a list of Chorus' proposed documents.

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<sup>1</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clause 3.8.6(1).

## Background on the expenditure proposal

- 1.6 From 1 January 2022, Chorus' fibre business has been subject to price-quality regulation under Part 6 of the Telecommunications Act 2001 (Act).<sup>2</sup> Under this regulatory regime, we are required to set the maximum revenue Chorus can earn, and the quality standards it must meet. A key component of this maximum revenue allowance is an allowance for the recovery of Chorus' forecast costs.
- 1.7 We must evaluate Chorus' capex proposal by considering whether the proposed capex meets the capital expenditure objective and reflects good telecommunications industry practice; and having regard to the assessment factors when considering whether a capex proposal has met the capital expenditure objective.<sup>3</sup> The expenditure amount we set will help determine the maximum allowable revenue Chorus can recover from its PQ FFLAS consumers.

### *IM requirements relating to expenditure proposals*

- 1.8 We must apply the Capex IM when assessing Chorus' capex proposal. The Capex IM prescribes the processes and rules for how we will assess and approve Chorus' forecast capex for upcoming regulatory periods, including the requirements Chorus must meet.
- 1.9 The IMs do not prescribe an approach to assessing operational expenditure (opex). However, as we did for PQP1, we have proposed adopting a similar approach for opex to that specified in the Capex IM for assessing capex.

### *Information gathering notice*

- 1.10 The Capex IM requires the Commission to issue an information request to Chorus prior to Chorus submitting an expenditure proposal. On 28 February 2023, we issued an information notice under s 221 of the Act.<sup>4</sup>
- 1.11 The information notice set out requirements in the Capex IM to specify the information Chorus was required to provide in its expenditure proposal, along with audit and other assurance requirements. Chorus' proposal published today alongside this paper, includes a document titled "C.PQP2.10 Responses to Information notice – PUBLIC" that identifies where in its proposal, it has met the expenditure proposal information requirements.

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<sup>2</sup> Unless stated otherwise all references to statutory provisions in this paper are references to statutory provisions under the Telecommunications Act 2001.

<sup>3</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, 3.8.5.

<sup>4</sup> Commerce Commission "Notice to supply information to the Commerce Commission under section 221 of the Telecommunications Act 2001 – Requirements for base capital expenditure, connection capex baseline expenditure, and operating expenditure proposals" (28 February 2023).

*Submissions on our process and approach paper*

- 1.12 On 31 August 2023, we published our process and approach paper for PQP2.
- 1.13 The purpose of our process and approach paper was to set out:
- 1.13.1 the process we propose to follow for PQP2;
  - 1.13.2 the frameworks we must apply to make decisions about PQ;
  - 1.13.3 developments made during PQP1;
  - 1.13.4 our approach to revenue and compliance;
  - 1.13.5 our process and approach to determining Chorus' expenditure allowances;  
and
  - 1.13.6 our approach to setting quality standards.
- 1.14 We received submissions on our process and approach paper on 28 September, and have published these submissions on our website. We intend to respond to submissions on our PQP2 process and approach paper when we issue our draft decisions in 2024.
- 1.15 However, a number of points were raised in these submissions on:
- 1.15.1 our expenditure evaluation process; and
  - 1.15.2 topic areas covered by Chorus' expenditure proposal.
- 1.16 We have acknowledged points raised in these submissions in this paper in order to provide certainty to stakeholders on our expenditure process, and ensure that stakeholders commenting on Chorus' proposal are aware of previous stakeholder feedback on related issues. In doing so, we have indicated how and when we intend to confirm our final views on them.
- 1.17 We discuss the submissions relating to the expenditure evaluation process in the following paragraphs (1.18 to 1.23). We discuss submissions relating to topic areas covered in Chorus' expenditure proposal in Chapter 2.

*Submissions on expenditure evaluation process*

- 1.18 Submissions on the process set out in the process and approach paper relating to our assessment of Chorus' expenditure proposal are summarised below:

- 1.18.1 Chorus recommended that decisions on quality standards are developed alongside, and determined at the same time, as the expenditure allowance and that setting the final quality standard after expenditure allowances are determined creates a risk that the expenditure allowances are either too high or too low to fund the investment needed to meet the quality standard.<sup>5</sup> Chorus set out in its submission that it considered the effect of the proposed timeframe for the quality standard decision would make it difficult in practice to make a material change to the quality standard following the draft decision on expenditure.<sup>6</sup> Chorus also stated that if no change to the timeframes were made, the Commission should either refrain from making significant changes to quality standards after the expenditure allowances are determined or allow Chorus additional time before the quality standards come into effect during PQP2.<sup>7</sup>
- 1.18.2 Chorus disagreed with the use of year-end 31 December 2023 as the ‘base year’ for PQP2 expenditure allowances and suggested using year-end 31 December 2022 instead due to the fact that:<sup>8</sup>
- 1.18.2.1 this is in line with how Chorus’ proposal is being prepared and independently verified;
- 1.18.2.2 this is consistent with the Commission’s approach for Transpower; and
- 1.18.2.3 the 2023 data will not be available until 2024.
- 1.18.3 One NZ submitted its concern that the consultation timeframes are too short and questioned whether this would allow end-users affected by changes in wholesale prices to engage.<sup>9</sup>
- 1.18.4 Chorus recommended the Commission work with Chorus to identify the best method of promoting improved asset management during PQP2.<sup>10</sup>
- 1.19 We acknowledge Chorus’ submission on the link between quality standards and expenditure and having separate timeframes for decisions on each matter. We intend to consider this submission before we publish our draft decision, and to provide further clarification on our process to stakeholders as required.

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<sup>5</sup> Chorus “PQP2 Process and Approach submission” (28 September 2023), at [22].

<sup>6</sup> Chorus “PQP2 Process and Approach submission” (28 September 2023), at [23].

<sup>7</sup> Chorus “PQP2 Process and Approach submission” (28 September 2023), at [24].

<sup>8</sup> Chorus “PQP2 Process and Approach submission” (28 September 2023), at [26].

<sup>9</sup> One NZ “Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period” (28 September 2023), at [3].

<sup>10</sup> Chorus “PQP2 Process and Approach submission” (28 September 2023), at [35].

- 1.20 We acknowledge Chorus' submission regarding the treatment of the base year for setting expenditure for PQP2. We agree with Chorus that it would be challenging to update expenditure allowances using the 2023 calendar year and we do not currently intend to update the base year used to determine expenditure allowance decisions. However, we intend to use 31 December 2022 as the base year, and note that it may be appropriate to update cost escalators, where relevant, with up-to-date values during our decision making process in 2024. We may also consider updated actuals from 2023 when evaluating the robustness of Chorus' expenditure forecasts.
- 1.21 We acknowledge One NZ's submission relating to timeframes for consulting on Chorus' PQP2 determination. The timeframes have been designed to enable us to meet our obligations under the IMs and reflect similar timeframes we have used previously.
- 1.22 We acknowledge Chorus' submission relating to Asset Management reporting. We will consider this during our evaluation of Chorus' expenditure proposal.
- 1.23 We will respond in full to these submissions when we issue our draft decision on Chorus' PQP2 expenditure allowances in Q1 2024.

#### **Our approach to evaluating Chorus' expenditure proposal**

- 1.24 We must make a determination on the base capex allowance, connection capex baseline allowance and opex allowance for Chorus' upcoming regulatory period.<sup>11</sup>
- 1.25 We must assess Chorus' proposed expenditure against the evaluation criteria in the Capex IM. This includes considering whether the proposed expenditure meets the expenditure objective and reflects good telecommunications industry practice.<sup>12</sup> As noted above, we propose to apply the same evaluation criteria in the Capex IM when assessing proposed opex, while making appropriate changes in criteria where relevant.

#### *Expenditure objective and good telecommunications industry practice*

- 1.26 As set out in the Capex IM, expenditure meets the expenditure objective if it "reflects the efficient costs that a prudent fibre network operator would incur to deliver PQ FFLAS of appropriate quality, during the relevant regulatory period and over the longer term".<sup>13</sup>
- 1.27 Good telecommunications industry practice means:<sup>14</sup>

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<sup>11</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clauses 3.7.12(1) and 3.7.20(1).

<sup>12</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clause 3.8.5(1).

<sup>13</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clause 3.8.5(2).

<sup>14</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clause 1.1.4(2).

the exercise of a degree of skill, diligence, prudence, foresight and economic management, that would reasonably be expected from a skilled and experienced asset owner engaged in “the management of a fibre network under comparable conditions. A decision on good telecommunications industry practice should take into account the domestic and international best practice, including international standards and factors such as the relative size, age and technology of the relevant fibre network and domestic regulatory and market conditions, including applicable law.”

#### *Capex IM assessment factors*

- 1.28 We will also have regard to the relevant assessment factors set out in the Capex IM when considering whether a capex proposal has met the expenditure objective. The assessment factors will help us identify the different aspects of prudence and efficiency that we consider relevant when evaluating capex proposals, and to assist us in setting expenditure allowances that are consistent with the statutory decision making framework.
- 1.29 The assessment factors we must apply to capex allowances, and that we are proposing to apply (where relevant) to the opex allowance, are listed in Table 1.1 below. We are interested in your views about whether the expenditure proposed by Chorus meets the expenditure objective when considered in light of these factors.
- 1.30 We will also ensure that the expenditure proposal is compliant with both the IMs and the information notice we have issued to Chorus.

**Table 1.1 Capex assessment factors**

	Capex IM assessment factors
a)	Whether the proposed capex complies with all applicable legal and regulatory obligations associated with the provision of PQ FFLAS;
b)	Governance relating to proposed capex, including evidence that appropriate policies and processes have been applied;
c)	Historic capital expenditure and consideration of historic rates of investment;
d)	Quantitative or economic analysis related to the proposed capex, including sensitivity analysis and impact analysis undertaken;
e)	Approach to forecasting capital expenditure, including models used to develop the capital expenditure forecasts;
f)	Relevant financial information including evidence of efficiency improvements in proposed capex;
g)	Competition effects, including specific information for sub-categories of capital expenditure that have potential impacts on competition in PQ FFLAS and other telecommunications markets;
h)	The linkages between the proposed capex and quality, including the impact the capital expenditure would have on PQ FFLAS quality outcomes;
i)	Consideration and analysis of alternatives to the proposed capex, including the impact of the alternatives on PQ FFLAS quality outcomes;
j)	The extent and effectiveness of consultation and engagement with stakeholders and the extent that feedback received has been incorporated into the capex proposal;
k)	Procurement, resourcing, and deliverability of the proposed capex;
l)	Common costs and benefits between PQ FFLAS, ID-only FFLAS and services that are not regulated FFLAS;
m)	Fibre asset and fibre network information;
n)	Mechanisms for controlling actual capital expenditure with respect to the proposed capex and achieving the PQ FFLAS quality outcomes;
o)	The extent of the uncertainty related to the: <ul style="list-style-type: none"> <li>- need for the proposed capex;</li> <li>- economic case justifying the proposed capex; and</li> <li>- timing of the proposed capex;</li> </ul>
p)	The extent that a risk-based approach has been applied;
q)	The impact that the proposed capex has on a layer 1 service in respect of PQ FFLAS;
r)	The dependency and trade-off between the proposed capex and related operating expenditure to ensure least whole-of-life cost for managing assets and cost-efficient solutions;
s)	The accuracy and reliability of data; and
t)	The reasonableness of the key assumptions, methodologies, planning and technical standards relied upon.

### How to navigate Chorus' proposal

- 1.31 Chorus is required to provide the Commission with quantitative and qualitative information that sets out its proposed expenditure for PQP2. To assist with our evaluation, Chorus is required to separate/explain its proposal in expenditure sub-categories. These categories were agreed previously between Chorus and the Commission as required in the Capex IM and are set out in the information notice.

- 1.32 Chorus' proposal includes both holistic information relating to how the expenditure was forecast and specific information relating to each sub-category of expenditure. The documentation supporting Chorus' proposal includes an external expert report from the independent verifier (Synergies). As discussed in more detail in Chapter 2, the findings of this report have helped inform the focus areas where we are particularly interested in stakeholder views.
- 1.33 In Appendix A, we have tabled each document in Chorus' expenditure proposal by document type and included an explanation of the type of information presented in each document.

### Process and key dates

#### *Key milestones and dates for the process*

- 1.34 The key dates for the assessment of Chorus' expenditure for PQP2 are set out in Table 1.2 below.<sup>15</sup>

**Table 1.2 Key dates**

Date	Milestone	Description
<b>31 October 2023</b>	Chorus' PQP2 expenditure proposal	Chorus submitted its expenditure proposal for PQP2
<b>16 November 2023</b>	Consultation on Chorus' expenditure proposal (this paper)	Commission publishes consultation paper on Chorus' proposed expenditure
<b>14 December 2023</b>	Consultation submissions due	Submissions on Chorus' expenditure proposal due
<b>December 2023</b>	Deregulation review - emerging views	Commission aims to publish early-mid December 2023
<b>2 February 2024</b>	Consultation cross-submissions due	Cross-submissions on Chorus' expenditure proposal due
<b>February 2024</b>	Submissions on deregulation review due	Submissions on the Commission's emerging views paper on deregulation
<b>Q1 2024</b>	Anchor services review – process update	The Commission will provide an update on the anchor services review
<b>Q1 2024</b>	Draft determination of Chorus' PQP2 expenditure allowances	Draft decision on Chorus' capex and opex allowances for PQP2
<b>Q1 2024</b>	Draft fibre IM amendments (if required)	Draft fibre IM amendments (if required) to implement our PQ decisions or correct technical errors
<b>Q2 2024</b>	Final fibre IM amendments (if required)	Final fibre IM amendments (if required) to implement our PQ decisions or correct technical errors
<b>Q2 2024</b>	Determination of Chorus' expenditure allowance for PQP2	Decision on Chorus' capex and opex allowances for PQP2
<b>Q2 2024</b>	Determination of Chorus' PQ path for PQP2 draft decision	Draft decision on Chorus' revenue path and quality standards for PQP2

<sup>15</sup> Note that we intend to consider Chorus' submission regarding timeframes.

Date	Milestone	Description
<b>Q2 2024</b>	WACC determination for Chorus PQP2	The determination of the WACC that must be used to set Chorus' allowable revenue for PQP2
<b>Q4 2024</b>	Determination of Chorus' PQ path for PQP2 final decision	Final decision on Chorus' revenue path and quality standards for PQP2
<b>1 January 2025</b>	Start of PQP2	PQP2 comes into effect

### How you provide your views

- 1.35 We encourage stakeholders to consider Chorus' expenditure proposal and provide views to help shape our draft decision on Chorus' expenditure allowances due Q1 2024. We are seeking stakeholder comments on all aspects of Chorus' expenditure proposal and the independent verifier report. We are particularly interested in stakeholders' views on the questions set out in Chapter 2 of this paper.

#### *Process and timeline for making submissions*

- 1.36 You are invited to provide your written views on this paper no later than 5pm Thursday, 14 December 2023 and cross-submissions no later than 5pm on 2 February 2024. You should address your responses to:
- 1.36.1 Keston Ruxton (Manager, Fibre PQ Regulation)
- 1.36.2 c/o [infrastructure.regulation@comcom.govt.nz](mailto:infrastructure.regulation@comcom.govt.nz)
- 1.37 Please include "Chorus expenditure consultation" in the subject line. We prefer responses to be provided in a file format suitable for word processing in addition to PDF file format.

#### *Confidentiality*

- 1.38 Please note that we intend to publish all submissions on this process paper.
- 1.39 The protection of confidential information is something the Commission takes seriously. The process requires you to provide (if necessary) both a confidential and non-confidential/public version of your submission and to clearly identify the confidential and non-confidential/public versions.
- 1.40 When including commercially sensitive or confidential information in your submission:
- 1.40.1 Please provide clearly-labelled confidential and public versions. We intend to publish all public versions on our website.

- 1.40.2 The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission. Where a confidential version of your submission is provided, please clearly identify and highlight all information you consider to be confidential.
- 1.40.3 Please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before any disclosure is made.

## Chapter 2 Topic areas of interest

### Purpose of the chapter

- 2.1 This chapter outlines the areas of Chorus' expenditure proposal where we are most interested in stakeholder views. We have not yet considered the proposal, and we are not commenting on the proposal in this paper. As such, the areas identified in this chapter are not an exhaustive list of what we may consider in making our decision. We are also interested in your views on any other aspect of Chorus' expenditure proposal and the independent verifier report.

### How we have identified the consultation topics

- 2.2 We have identified the consultation topics by considering:
- 2.2.1 an initial review of the independent verifier report findings and conclusions with a particular focus on issues raised by the independent verifier, areas of Chorus' proposal that are not verified and recommended focus areas for the Commission by the independent verifier; and
  - 2.2.2 where we consider stakeholder input will assist with our evaluation of Chorus' proposal and contribute to our draft decision.

### Independent Verifier process

- 2.3 The Capex IM requires Chorus' expenditure proposal to be verified by an independent verifier.<sup>16</sup> An independent verifier is a person who is an independent expert.<sup>17</sup>
- 2.4 Synergies and its project partner Mott McDonald were appointed as the independent verifier for PQP2 and entered into a tripartite agreement with Chorus and the Commerce Commission to help govern the verification process. The Tripartite Deed was published alongside our PQP2 process and approach paper in August 2023.<sup>18</sup> The final report was submitted alongside Chorus' expenditure proposal and has been published on our website alongside this paper. The independent verifier's report outlines the process and approach taken to verifying Chorus' expenditure proposal, the scope of the verification and how Chorus' proposal was verified while having regard to the evaluation criteria set out in the Capex IM.

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<sup>16</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clauses 3.7.10(1) and 3.7.16(1).

<sup>17</sup> *Fibre Input Methodologies Determination 2020* [2020] NZCC 21, clause 1.1.4(2)

<sup>18</sup> See [Deed relating to PQP2 independent verification \(May 2023\)](#).

- 2.5 The verification process is intended to promote certainty for Chorus as to how its expenditure proposals are likely to be assessed, as well as to assist us to make the most effective use of the tight statutory timeframes for evaluating capex proposals by highlighting which areas of a proposal we should focus on. The process includes testing of Chorus' proposal where Chorus or a supplier may adjust its proposal during the verification process prior to submitting.
- 2.6 The independent verifier is independent of the Commission and its findings may differ to those of the Commission when we analyse Chorus' proposal. Our intention is to consider the independent verifier's report and utilise the independent verifier's findings in both establishing the issues that require further evaluation, and where we consider it appropriate, to utilise the independent verifier's findings within our draft and final decision. Verification of a part of Chorus' expenditure by the independent verifier does not mean the Commission agrees, and we are not bound by the opinions or recommendations made by the verifier. We will make our own decision as required by the IMs.
- 2.7 There is a discrepancy between some categories of expenditure outlined in the independent verifier report and Chorus' proposal. Chorus has provided reasoning for the discrepancy in C.PQP2.16.<sup>19</sup>

#### **Overview of Chorus' proposal and summary of feedback we are seeking**

- 2.8 Chorus is proposing to spend \$1,345 million on base capex during PQP2 and \$740 million on opex during PQP2.<sup>20</sup> Table 2.1 below contains a breakdown of Chorus' proposed expenditure for PQP2.

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<sup>19</sup> Chorus "C.PQP2.16 IV to proposal reconciliation" (31 October 2023).

<sup>20</sup> All figures presented in this paper are in constant price terms (real \$) unless stated otherwise. Our final allowance decisions and the decisions that effect the price path will be made in commissioned nominal dollars.

**Table 2.1 Summary of Chorus' proposed expenditure for PQP2<sup>21</sup>**

Category	Sub-category	Amount	Verified by IV
<b>Extending the network</b>	Augmentation	\$221 million	verified subject to Chorus providing more information
	New property developments	\$32 million	verified
<b>Installations</b>	Standard installation	\$310 million	verified
	Complex installations	\$12 million	verified
<b>Network Sustain and Enhance</b>	Field sustain	\$121 million	verified
	Site sustain	\$91 million	verified
	Relocations	\$18 million	verified
<b>Network Capacity Capex</b>	Resilience	\$80 million	verified
	Access	\$127 million	verified
	Aggregation	\$80 million	verified
<b>IT and Support Capex</b>	Transport	\$85 million	verified
	Network and customer IT	\$95 million	verified
	Business IT	\$73 million	verified
	Corporate	\$13 million	verified
<b>Customer Opex</b>	Product, sales, and marketing	\$115 million	could not verify against all assessment factors
	Customer operations	-\$29 million	could not verify against all assessment factors
<b>Network Opex</b>	Maintenance	\$137 million	could not verify against all assessment factors
	Operating costs	\$44 million	could not verify against all assessment factors
<b>Support Opex</b>	Network operations	\$80 million	could not verify against all assessment factors
	Asset management	\$95 million	verified
	Technology	\$94 million	could not verify against all assessment factors
	Corporate	\$204 million	verified

**Specific topic areas raised in the IV report we are seeking views on**

2.9 The IV report has guided our focus on Chorus' expenditure proposal. We are especially interested in stakeholders' views on the areas set out below.

<sup>21</sup> See Chorus "Our Fibre Plans" (31 October 2023) and Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023).

## *Resilience*

- 2.10 Chorus proposes to spend \$79.7 million on resilience related projects (excluding seismic strengthening) over PQP2.<sup>22 23 24</sup> The bulk of the investment in resilience is in duplication of critical network assets in the form of separate cable routes, so if one is damaged, broadband services to the relevant communities are not affected.
- 2.11 The independent verifier verified the proposed resilience capex as satisfying the evaluation criteria.<sup>25</sup> To form this opinion, the independent verifier set out that it considered:
- 2.11.1 the approach to forecasting capex, including the models used to develop the capex forecasts (assessment factor (e));
  - 2.11.2 linkages between proposed capex and quality, including the impact the capex would have on PQ FFLAS quality outcomes (assessment factor (h));
  - 2.11.3 the extent and effectiveness of consultation and engagement with stakeholders and the extent that feedback received has been incorporated into the capex proposal (assessment factor (j));
  - 2.11.4 the procurement, resourcing and deliverability of the proposed capex (assessment factor (k)); and
  - 2.11.5 the reasonableness of the key assumptions, methodologies, planning and technical standards relied upon (assessment factor (t)).
- 2.12 However, the independent verifier also believed that greater confidence in the allowed amount of expenditure proposed would be provided if there was greater transparency around the build-up of the PQP2 forecasts.
- 2.13 While this expenditure category has been verified, we are particularly interested in feedback on proposed expenditure on resilience given the expected increasing frequency and severity of extreme weather events. We have also received comments from stakeholders on resilience expenditure in submissions on our process and approach paper suggesting this is a topic of interest:

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<sup>22</sup> Reference the site sustain expenditure category as whether the seismic strengthening exp is and where in the proposal SHs can see more information.

<sup>23</sup> Synergies “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (31 October 2023), at 168.

<sup>24</sup> Chorus “Our Fibre Plans” (31 October 2023), at 16.

<sup>25</sup> Synergies “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (31 October 2023), at 178.

- 2.13.1 Chorus submitted that the Commission should account for the preferences of end-users and stakeholders as end-user feedback is an important driver of resilience capex.<sup>26</sup>
- 2.13.2 One NZ submitted the following:
- 2.13.2.1 Chorus needs to demonstrate why standalone additional expenditure is required to increase resilience given that access seekers expect that fibre services already have a level of resilience.<sup>27</sup>
  - 2.13.2.2 Chorus must not be given a blank cheque for resilience investment and Chorus must demonstrate that expenditure it is incurring has a direct link to the resilience outcomes it seeks.<sup>28</sup>
  - 2.13.2.3 A number of Government workstreams are looking at enhancing infrastructure resilience. It would not be appropriate for the Commission to define resilience standards that do not align with this broader policy work and the Commission should not attempt to determine Chorus' expenditure for resilience outcomes until the Government's work on critical infrastructure standards has concluded.<sup>29</sup>
  - 2.13.2.4 In addition to the matters the Commission identified in its process and approach paper, One NZ suggested the following are relevant:<sup>30</sup>
    - 2.13.2.4.1 cost-benefit analysis;
    - 2.13.2.4.2 confirmation of a direct link to resilience outcomes;
    - 2.13.2.4.3 expected value of the proposed expenditure; and
    - 2.13.2.4.4 confirmation that the proposed expenditure avoids double recovery from shared assets.

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<sup>26</sup> Chorus "PQP2 Process and Approach – Submission" (28 September 2023), page 39.

<sup>27</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 41.

<sup>28</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 42.

<sup>29</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 43.

<sup>30</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 45.

- 2.13.2.5 It is important that the proposed expenditure is targeted at increasing resilience in the access network or backhaul network. One NZ submitted that Chorus is not the only provider of backhaul services and the PQ determination must not enable Chorus to invest in resilience enhancements that might be undertaken by other commercial providers and recover this spending across other business lines.<sup>31</sup>
- 2.13.3 Federated Farmers submitted that the Commission should consider the importance of ensuring the resilience of Chorus' backhaul network as it is fundamental to the provision of fixed wireless and mobile services in rural areas.<sup>32</sup>
- 2.13.4 Spark submitted that any substantive new investment programme be considered through individual capex proposals as the Government is in the process of implementing new regulatory frameworks for rural fibre and critical infrastructure resiliency.<sup>33</sup>

#### *Network extension*

- 2.14 Chorus proposes to spend \$201.0 million over PQP2 to expand the fibre network in the first part of a wider programme known as the fibre frontier.<sup>34</sup> This investment would extend communal fibre infrastructure to 40,000 more premises and increase overall fibre coverage from 87% to 89% of the population.
- 2.15 The independent verifier has verified Chorus' proposed network expansion capex subject to the outcomes of Chorus' market testing in relation to the programme's costs and implications of this investment on the deliverability of Chorus' broader expenditure programme.<sup>35</sup> The independent verifier considers that the proposed expansion capex satisfies the assessment factors relating to:
- 2.15.1 governance relating to proposed capex, including evidence that appropriate policies and processes have been applied (assessment factor (b));
- 2.15.2 quantitative or economic analysis related to the proposed capex including sensitivity analysis and impact analysis undertaken (assessment factor (d));

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<sup>31</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 46.

<sup>32</sup> Federated Farmers "Process paper – Fibre price quality regulation – Submission" (25 September 2023), page 2.

<sup>33</sup> Spark "Fibre price-quality regulation: process and approach for the 2025-2028 regulatory period – submission" (28 September 2023), para 10.

<sup>34</sup> Chorus "Our Fibre Plans" (31 October 2023), at 16.

<sup>35</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 139 and 140.

- 2.15.3 approach to forecasting capex, including models used to develop the capex forecasts (assessment factor (e)); and
- 2.15.4 the extent and effectiveness of consultation and engagement with stakeholders and the extent that feedback received has been incorporated into the capex proposal (assessment factor (j)).
- 2.16 The independent verifier considers that Chorus has made a good case for the investment which it believes to be challenging given the geographically consistent pricing constraint and large social benefits for which Chorus cannot earn a return.
- 2.17 We received submissions on rural fibre expansion on our process and approach paper:
- 2.17.1 Chorus submitted that the Commission should ignore the impact of geographically consistent pricing and instead focus on consumers' willingness to pay as consumers' willingness to pay is a better measure of the value consumers place on fibre services and therefore the competitive price of fibre in rural areas.<sup>36</sup> This can be evaluated using the workably competitive market test which asks whether the consumer's willingness to pay is broadly equal to or exceeds the incremental cost of the network expansion.
- 2.17.2 One NZ submitted that a mixed technology approach is required to achieve rural connectivity outcomes in the most efficient and cost-effective way.<sup>37</sup> One NZ submitted that it is critical that the expenditure allowance does not incentivise inefficient investment or distort the market in favour of fibre in areas where it makes more sense to use other technologies to deliver connectivity more efficiently.<sup>38</sup> One NZ propose that clear criteria are set to define where expenditure on rural fibre expansion can qualify under the PQ regime.<sup>39</sup>

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<sup>36</sup> Chorus "PQP2 Process and Approach – Submission" (28 September 2023), para 73.

<sup>37</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 35.

<sup>38</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 36

<sup>39</sup> One NZ "Submission on fibre price-quality regulation: proposed process and approach for the 2025-2028 regulatory period" (28 September 2023), para 39.

- 2.18 Stakeholder feedback suggested this should be a focus area of our evaluation of Chorus' expenditure proposal. We also note that the proposed expenditure represents a significant extension of Chorus' current network in dollar terms. We are interested to know what legal, economic and competition evaluation frameworks we should apply when considering the expenditure proposal. The proposal envisages a degree of cross-subsidisation from UFB1 and UFB2/2+. We are interested in stakeholders' views on this.

*Approach to forecasting opex allowances using a base, step, trend (BST) methodology*

- 2.19 Chorus has used a top-down base step trend (BST) model to forecast opex. This is the first time Chorus has applied the (BST) methodology to forecast opex. Chorus has applied the BST forecasting methodology to the following opex sub-categories:
- 2.19.1 Customer operations – Product, Sales and Marketing;
  - 2.19.2 Network – Maintenance;
  - 2.19.3 Network – Network Operations;
  - 2.19.4 Network – Operating Costs;
  - 2.19.5 Support – Asset Management;
  - 2.19.6 Support – Corporate; and
  - 2.19.7 Support – Technology.
- 2.20 The independent verifier has identified the following issues as a focus area:
- 2.20.1 opex base-step trend methodology;
  - 2.20.2 proposed changes to reporting of mandatory quality standards;
  - 2.20.3 fibre frontier capex; and
  - 2.20.4 deliverability in terms of the total PQP2 capex and opex
- 2.21 The independent verifier has identified that firmer information in relation to Chorus' proposed capex/opex trade-offs regarding selected IT projects and solar panel installations (delivering PQP2 opex savings) would substantiate more robust PQP2 Opex forecasts.
- 2.22 The independent verifier's opinion was that while significant further supporting information may not be available, it suggested that the Commission should also closely assess the basis of Chorus' cost elasticity methodology used for trending purposes in the PQP2 Opex sub-category base step trend forecasts.

2.23 The independent verifier was unable to verify:

2.23.1 customer operations;

2.23.2 product, sales and marketing;

2.23.3 network maintenance;

2.23.4 network operations;

2.23.5 operating costs; and

2.23.6 technology.

#### *Customer operations*

2.24 Customer Operations covers activities related to coordinating installations, switching, and provisioning.<sup>40</sup> The independent verifier was unable to verify that Chorus' PQP2 Customer Operations sub-category forecast satisfies the Evaluation Criteria. The independent verifier did not think the proposed customer operations expenditure satisfied the assessment factor regarding the accuracy and reliability of data.

#### *Product, sales and marketing*

2.25 Chorus proposes to spend \$115.3 million on product, sales and marketing (PSM) over PQP2. Expenditure in this category includes areas such as marketing campaigns, data insights, product management, account management and innovation.

2.26 The independent verifier was able to verify that the proposed PSM expenditure satisfies the following assessment factors:

2.26.1 historic rates of investment (assessment factor (c));

2.26.2 approach to forecasting opex (assessment factor e));

2.26.3 competition effects (assessment factor (g)); and

2.26.4 reasonableness of key assumptions and methodologies (assessment factor (t)).

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<sup>40</sup> Chorus "Our Fibre Assets" (31 October 2023).

- 2.27 The independent verifier was unable to fully verify that the proposed PSM expenditure satisfies the assessment factor that relates to the accuracy and reliability of data as it relates to the use of electric network elasticities in the trend factor.

*Network maintenance*

- 2.28 Chorus proposes to spend \$137.3 million on network maintenance over PQP2.<sup>41</sup> This investment covers the physical cost of network inspection and repairs, property maintenance and materials.<sup>42</sup>
- 2.29 The independent verifier was unable to verify network maintenance as meeting the evaluation criteria.<sup>43</sup> However, the independent verifier has verified that the proposed network maintenance capex satisfies the assessment factors relating to:
- 2.29.1 historic rates of investment (assessment factor (c));
  - 2.29.2 approach to forecasting opex (assessment factor (e));
  - 2.29.3 fibre assets and fibre network information (assessment factor (m)); and
  - 2.29.4 reasonableness of key assumptions and methodologies relied upon (assessment factor (t)).
- 2.30 The independent verifier was not able to verify that the network maintenance capex satisfies the assessment factor (s) regarding the accuracy and reliability of data as it relates to:
- 2.30.1 the base year upwards adjustment in relation to property maintenance;
  - 2.30.2 the quantum of the step; and
  - 2.30.3 the use of electricity network elasticities in the trend factor.<sup>44</sup>

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<sup>41</sup> Synergies “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (October 2023), at 207.

<sup>42</sup> Chorus “Our Fibre Plans” (31 October 2023), at 15.

<sup>43</sup> Synergies “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (31 October 2023), at 245.

<sup>44</sup> Synergies “Independent verification report – Chorus’ PQP2 expenditure proposal (CY2025-2028)” (31 October 2023), at 249.

### *Network operations*

- 2.31 Chorus proposes to spend \$80.4 million on network operations over PQP2.<sup>45</sup> Network operations opex primarily relates to the labour of running the network operation centre the assure service desk, the security operations centre, customer billing process and customer-facing network services.<sup>46</sup>
- 2.32 The independent verifier was unable to verify that Chorus' PQP2 network operations proposed opex as it did not consider that it satisfied the evaluation criteria.<sup>47</sup> Like other opex categories discussed, this is because of the lack of accuracy and reliability of data (assessment factor (s)) as it relates to the step changes and use of electricity network elasticities.
- 2.33 However, the independent verifier believes that network operations opex satisfies the following assessment factors:
- 2.33.1 historic expenditure and consideration of historic rates of investment (assessment factor (c));
  - 2.33.2 the approach to forecasting opex, including models used to develop the opex forecasts (assessment factor (e));
  - 2.33.3 fibre asset and fibre network information (assessment factor (m)); and
  - 2.33.4 the reasonableness of the key assumptions, methodologies, planning and technical standards relied upon (assessment factor (t)).

### *Operating costs*

- 2.34 Chorus proposes to spend \$43.7 million over PQP2 on operating costs.<sup>48</sup> This expenditure relates to running the network, including electricity costs and leases.<sup>49</sup>

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<sup>45</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 245.

<sup>46</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 235.

<sup>47</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 247.

<sup>48</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 207.

<sup>49</sup> Chorus "Our Fibre Plans" (31 October 2023), at 15.

- 2.35 The independent verifier is unable to verify the operating costs capex as meeting the evaluation criteria.<sup>50</sup> However, the independent verifier has verified that the operating costs meets the same assessment factors specified above for network maintenance as well as assessment factor (r) regarding the dependency and trade-off between the proposed capex and related opex to ensure least whole-of-life cost for managing assets and cost-efficient solutions.
- 2.36 However, the independent verifier was not able to verify that the operating costs expenditure satisfies the assessment factor relating to the accuracy and reliability of data because of the impact of proposed solar capex/opex trade-off on electricity costs and the use of electricity network elasticities in the trend factor.

### *Technology*

- 2.37 Chorus proposes to spend \$93.4 million on technology opex over PQP2. The Technology sub-category covers external costs associated with IT and network systems, including licenses, support contracts, maintenance, and outsourced technology services.
- 2.38 The independent verifier verified that Chorus' PQP2 Technology sub-category forecast satisfies a number of assessment factors that it had regard to including the assessment factors regarding:
- 2.38.1 regarding historic rates of investment (assessment factor (c));
  - 2.38.2 approach to forecasting opex (assessment factor (e));
  - 2.38.3 fibre asset and fibre network information (assessment factor (m)); and
  - 2.38.4 the reasonableness of key assumptions and methodologies relied upon (assessment factor (t)).
- 2.39 However, the independent verifier could not verify that the PQP2 Technology sub-category forecast satisfies the assessment factor regarding the accuracy and reliability of data as it relates to the opex impact of the proposed selected IT project capex/opex trade-off.

### *Capex forecasting models*

- 2.40 The independent verifier has identified capex forecasting models as an area that requires additional supporting information. This relates to the provision of financial models that show how Chorus has applied its Price x Quantity forecasting methodologies to develop the capex sub-category PQP2 forecasts.

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<sup>50</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 249.

- 2.41 The independent verifier noted that while the methodologies are generally well explained, more granular data regarding the build-up of the P and Q in these forecasting methodologies for specific capex sub-categories may be required.<sup>51</sup>
- 2.42 We will have regard to the independent verifier's opinion on capex forecasting models as we assess Chorus' proposal. While the independent verifier's opinion refers to additional information that is not available in Chorus' current proposal material, we are interested in stakeholder views on the forecasting methodologies Chorus has used in developing its expenditure forecasts and identifying any specific issues that we should focus on during our evaluation.

### *Stakeholder engagement*

- 2.43 Chorus has conducted consultation with end-users and stakeholders to inform its proposal for PQP2.<sup>52</sup> Chorus sought views on stakeholder and end-user preferences and priorities over four different rounds of engagement, which include:
- 2.43.1 Initial survey – on preferences and level of interest;
  - 2.43.2 Key issues survey – on issues and topics of interest;
  - 2.43.3 Formal consultation – on expenditure choices and potential regulatory settings; and
  - 2.43.4 Stakeholder workshops and interviews – to gain deeper insights into preferences and willingness to pay.
- 2.44 Stakeholder engagement has an effect across several areas of Chorus' PQP2 expenditure as well as on Chorus' quality proposal. The independent verifier has verified that Chorus' PQP2 stakeholder engagement satisfies assessment factor (j) regarding the extent and effectiveness of consultation and engagement because it was a planned, tiered engagement process, which sought to identify stakeholder priorities for the PQP2 proposal.<sup>53</sup>
- 2.45 The independent verifier also views the stakeholder engagement is effective as it has been incorporated into the PQP2 Capex proposal for targeted investment areas and fibre frontier capex.

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<sup>51</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), page 23

<sup>52</sup> Chorus "Our Fibre Plans" (31 October 2023), at 184 and 185.

<sup>53</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 5.

- 2.46 However, the independent verifier has not verified Chorus' PQP2 stakeholder engagement as satisfying the evaluation criteria because price-quality testing of the PQP2 proposal with stakeholders has not been undertaken.

#### *Deliverability*

- 2.47 Deliverability is an area that has an effect across several areas of Chorus' PQP2 expenditure. Technician shortages beyond the control of Chorus caused by immigration restrictions and labour constraints have caused delivery challenges in the current regulatory period (PQP1).<sup>54</sup> However, Chorus has adapted its delivery model to meet future delivery tasks through resetting field services agreements and managing labour market conditions. Chorus has noted that it is expecting its business as usual (BAU) build capacity to be close to 100% of resources required for existing work by the end of July 2023.
- 2.48 The independent verifier has verified that Chorus' deliverability satisfies the evaluation criteria subject to confirmation that the deliverability challenges brought about by the technician shortages are fully resolved and that the capacity of construction contractors is available to carry out the fibre frontier work.<sup>55</sup>

#### *Quality*

- 2.49 Chorus is proposing to make the following quality standard changes over PQP2:
- 2.49.1 change the measurement of the availability standards from 23 Points of Interconnection (POIs) to 11 Customer Service Areas (CSAs);
  - 2.49.2 change the breach threshold from 90% back to 95%; and
  - 2.49.3 include a force majeure mechanism in the performance quality standard.
- 2.50 The independent verifier's opinion was that the following parts of Chorus' proposal relating to quality standards do not satisfy the evaluation criteria:
- 2.50.1 changing the breach threshold from 90% to 95%; and
  - 2.50.2 introducing an exclusion for all-cause network equipment failure.
- 2.51 The independent verifier's opinion was that the following areas satisfy the evaluation criteria:
- 2.51.1 the retention of the current availability and port utilisation quality standards; and

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<sup>54</sup> Chorus "Our Fibre Plans" (31 October 2023), at 147.

<sup>55</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 7.

- 2.51.2 the measurement of the availability quality standards changing from 23 POIs to 11 CSAs.

**Other topic areas in Chorus' proposal we are seeking views on**

*Demand forecasting*

- 2.52 Chorus uses models and forecasting methodologies for the following aspects of FFLAS demand:<sup>56</sup>

2.52.1 new communal (shared network extensions);

2.52.2 the demand to lay fibre into new property developments;

2.52.3 the demand from end-users to have fibre installed;

2.52.4 the demand from end-users on installed networks to activate their connections; and

2.52.5 the bandwidth demand across the network.

- 2.53 The independent verifier has indicated it considers that Chorus' demand forecasting methodologies allow Chorus to produce expenditure forecasts that satisfy the evaluation criteria.<sup>57</sup> The independent verifier specifically states that the demand forecasting methodologies and assumptions used are reasonable and therefore satisfy assessment factor (t).

- 2.54 We are interested in stakeholder feedback on Chorus' demand forecasting approach. Demand forecasting is an important input into a number of Chorus' proposed expenditure categories.

*Incentive payments*

- 2.55 Chorus proposes to spend \$54.1 million on incentive payments over PQP2. Incentive payments are payments Chorus makes to Retail Service Providers (RSPs) to incentivise acquisition of new customers on its fibre network or to incentivise existing customers to upgrade to a new service.<sup>58</sup>

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<sup>56</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 59 and 60.

<sup>57</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 7 and 8.

<sup>58</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 147 and 148.

- 2.56 The independent verifier has verified that the proposed incentive payments capex satisfies the evaluation criteria. In forming this opinion, the independent verifier sets out that it has had regard to:<sup>59</sup>
- 2.56.1 approach to forecasting capex, including models used to develop the capex forecasts (assessment factor (e));
  - 2.56.2 competition effects, including specific information for sub-categories of capital expenditure that have potential impacts on competition in PQ FFLAS and other telecommunication markets (assessment factor (g)); and
  - 2.56.3 the reasonableness of the key assumptions, methodologies, planning and technical standards relied upon (assessment factor (t)).
- 2.57 Chorus' PQP1 proposal on incentive payments received significant stakeholder attention. We are interested in stakeholder views on this expenditure for PQP2.

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<sup>59</sup> Synergies "Independent verification report – Chorus' PQP2 expenditure proposal (CY2025-2028)" (31 October 2023), at 150.

## Attachment A List of Chorus' proposal documents

Table A1 List and description of Chorus' proposal documentation

Document type	Document	Description
<b>Integrated Fibre Plans</b>	Our Fibre Plans	Key part of Chorus proposal for expenditure on fibre fixed line access services (FFLAS) for PQP2. It covers: <ul style="list-style-type: none"> <li>- Chair's letter</li> <li>- Overview</li> <li>- Introduction</li> <li>- Governance</li> <li>- Demand</li> <li>- Quality</li> <li>- Delivery</li> <li>- Engagement</li> <li>- Regulatory settings</li> </ul>
	Glossary	Summary of key terms and abbreviations
	Document list	Outlines all the documents included in Chorus' proposal and the responses to the information request from 28 February 2023.
	Our Fibre Assets	Comprehensive document describing Chorus' assets, investment planning and operations. This is Chorus' Integrated Fibre Plan (IFP) investment report, as well as the connection capex baseline proposal. It covers: <ul style="list-style-type: none"> <li>- Proposal insights</li> <li>- Asset management</li> <li>- Chorus' network</li> <li>- Extending the network</li> <li>- Installations</li> <li>- Network sustain and enhance</li> <li>- Network capacity</li> <li>- IT and support</li> <li>- Connection capex</li> <li>- Opex insights</li> <li>- Customer opex</li> <li>- Network opex</li> <li>- Support opex</li> <li>- Fibre frontier</li> <li>- ONTs</li> </ul>
<b>Regulatory Templates</b>	C.PQP2.05 RT01 Forecast expenditure	Regulatory template for forecast expenditure
	C.PQP2.06 RT02 Cost escalation	Regulatory template for cost escalation
	C.PQP2.07 RT03 Cost allocation	Regulation template for cost allocation
	C.PQP2.08 RT04 Connection capex and adjustment	Regulatory template for connection capex and adjustment
	Modelling and cost allocation report	Explains how Chorus has developed its regulatory expenditure forecasts including its modelling approach, cost allocation, cost allocation and associated conventions.

Document type	Document	Description
<b>Assurance</b>	Response to information notice	Response to information requests within the s221 notice dated 28 February 2023, with interpretation notes and explanations, for areas not covered elsewhere in the proposal. It also acts as the response to requirement A5.2 and maps each requirement of the Notice to where in the proposal they have been addressed. Section A follows the structure of the Notice 'A' series requirements, with long-form responses in section B.
	Director's certificate	Director's certification in line with IM requirement
	Assurance opinion from KPMG	KPMG assurance opinion for audit of the proposal
	Report from independent verifier	Report from the independent verifier
	Compliance map	Sets out how Chorus' documents comply with the IM requirements
	Confidential information appendix	Details the information over which Chorus' claim confidentiality within the proposal, information request responses and other reports.
	Independent verifier to proposal reconciliation	Provides a reconciliation between the financial numbers in the final independent verifier's report and the numbers in Chorus' expenditure proposal.
<b>Other supporting documents</b>	C1 Strategic asset management plan	Chorus' strategic asset management plan
	C2 Asset capitalisation policy	Chorus' asset capitalisation policy
	C3 Asset management policy	Chorus' asset management policy
	Procurement policy	Chorus' procurement policy
	NZIER report	NZIER independent report on cost escalators – June 2023
<b>Expert reports and other third party documents</b>	NERA report on BST	NERA independent report regarding base step trend (BST) forecasting
	Incenta cost allocation expert report	Incenta independent report on proposed cost allocation changes
	Aon report	Aon report on self-insurance
	Extracts from field service agreements	Extracts from field service agreements with service level agreements
	Kantar report	Report summarising Chorus' final round of PQP2 specific engagement, relating to stakeholder workshops and interviews
Sue Chetwin letter	Letter from independent chair of Chorus' fourth and final round of PQP2 specific stakeholder engagement.	